

**Archaeological Investigations at the Red Tail Site (FbNp-10) and an Examination of Public  
Access to Archaeology in Saskatchewan**

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Saskatoon

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## **Abstract**

The Red Tail site (FbNp-10) is a multicomponent habitation site located 2.5 km north of Saskatoon within the boundaries of Wanuskewin Heritage Park. The site was initially tested in the early 1980s and then excavated during the summers of 1988 and 1989 by University of Saskatchewan archaeology field school students, paid crews and many volunteers.

Evidence from the site indicates that it was inhabited numerous times, beginning around 4,300 years before present with a McKean occupation, which also included the only McKean house pit feature found on the Canadian Plains. Other associations with archaeological cultures include Sandy Creek, Besant and Avonlea, revealing that the most recent identifiable occupation to have occurred was between 1,300 – 1,000 years before present. The Sandy Creek component is only the second to be recovered from a site within Wanuskewin Heritage Park.

As the longest running archaeological project in Canada, the sites that have been excavated at Wanuskewin have involved a number of volunteers and the success of such a cultural facility would not be possible without the interest of members of the public. The dissemination of information about archaeology to the public has a colourful past in Saskatchewan that began in 1935 with the formation of the Saskatoon Archaeological Society; a group of avocationals who were interested in learning and sharing information about this province's rich cultural history. Since then, the Saskatchewan Archaeological Society and its associated chapters were formed and awareness for the importance of preserving the past has been communicated through many avenues, including programs that invite members of the public to participate in archaeological opportunities within the province. An examination of these avenues of information sharing demonstrates how important public interest and support is to archaeology and heritage works in Saskatchewan.

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## **Chapter 1**

### **Introduction**

#### **1.1 Research Background**

The Red Tail site is located within Wanuskewin Heritage Park approximately 2.5 km north of the City of Saskatoon (Walker 1983). Wanuskewin was designated as a National Historic Site in 1987, but has been of interest to the local archaeological community since the 1930s. Sporadic test excavations were done at Wanuskewin in every decade between the 1940s and 1970s, but in the early 1980s, Dr. Ernest Walker carried out an extensive archaeological resource assessment and identified 21 archaeological sites within the Park boundaries. Nineteen of these sites are precontact including the Red Tail site (Walker 1987). To date, excavations have identified approximately 6,000 thousand years of occupation in this area (Wanuskewin Heritage Park 2015a).

During the summers of 1988 and 1989, University of Saskatchewan graduate student Charles Ramsay undertook extensive excavations at the Red Tail site under the supervision of Dr. Walker. Field school students, work crews, and a number of volunteers excavated 44 square meters up to a depth of 2.3 meters in some units. The Red Tail site is a deeply stratified, multicomponent archaeological site and, as a result of the large amount of data collected, Ramsay analysed cultural levels 8 – 15 only. Having identified McKean cultural components within levels 11, 12 and 13, he focused his work on examining the variation within the McKean culture by completing site comparisons between the Red Tail site and two other archaeological sites with McKean components; the Cactus Flower and Crown sites (Ramsay 1993).

#### **1.2 Research Objectives**

There are a number of research objectives addressed for this thesis. As a comprehensive analysis of the lower levels of the site was completed by Ramsay in 1993, the first objective of

this study is to provide a detailed analysis of the artifacts and features of the upper seven cultural levels of the site as well as a re-examination of level 8 and its associated house pit feature. This examination completes a full analysis of all of the cultural components of the Red Tail site. A second objective, based on the completion of the first, is to provide further information about the cultural activities that took place in Wanuskewin and to augment the already existing literature. The third and final objective is to discuss the benefits of involving the public in archaeology, how this has been and continues to be done in Saskatchewan and the role that Wanuskewin Heritage Park plays within this framework.

The importance of completing this project, in part, lies in its contribution to our current understanding of the thousands of years of occupation at Wanuskewin Heritage Park. This project will also demonstrate how the public is valuable to archaeology and to cultural parks in order to continue the successful preservation of heritage. Included in this is how a volunteer week at the Red Tail site in 1988 was the antecedent for public involvement in archaeology at Wanuskewin for over three decades.

### **1.3 Organizational Summary**

This thesis contains twelve chapters including this introduction. Chapter 2 describes the biophysical environment of the Wanuskewin Heritage Park area including the flora, fauna and environmental conditions. Chapter 3 is a discussion of the culture history on the Northern Plains with a concentration on those time periods that relate directly to the Red Tail site such as McKean, Besant and Avonlea. Chapter 4 describes the methodology used to excavate the site and analyze the archaeological material. It also contains information about the radiocarbon samples taken for levels 2 and 8. Chapters 5 through 9 present the archaeological material and features found within cultural levels 1 – 7 of the site as well as the interpretation of each based

on the available data. Chapter 10 is a re-examination of cultural level 8 and also provides an overview of the Red Tail site as a whole. Chapter 11 introduces a discussion about avocational archaeological organizations and public education and participation in archaeology within North America in general and the province of Saskatchewan in particular. Chapter 12 summarizes the site analysis, comments on the importance of continuing to involve the public in archaeology and offers suggestions for future research.



## **Chapter 2**

### **The Biophysical Environment of Wanuskewin Heritage Park**

#### **2.1 Geography**

The area of study is located within the Great Plains region, which encompasses a large mass of land on the North American continent. The region extends as far south as central Texas and as far north as the Boreal forests of Alberta, Saskatchewan and Manitoba. The Plains are bordered on the western side by the Rocky Mountains and extend as far east as the Mississippi River (Kornfeld et al. 2010). There are five accepted spatial divisions of the Great Plains: The Southern Plains, the Central Plains, the Middle Missouri region, the Northeastern Plains and the Northwestern Plains (Kay 1998; Wood 1998).

Wanuskewin Heritage Park is in south-central Saskatchewan in the Northwestern Plains. The Park is roughly 500 m above sea level and is currently comprised of 63 ha of land on the west bank of the South Saskatchewan River approximately 2.5 km north of Saskatoon. (Figure 2.1). The legal land designation is the SW<sup>1</sup>/<sub>4</sub> Section 36 and SE<sup>1</sup>/<sub>4</sub> Section 35, Township 36, Range 5, West of the 3<sup>rd</sup> Meridian. This land parcel falls within the Warman Plain division of the physiographic region known as the Saskatchewan Rivers Plain. The Warman Plain is described by Acton and Ellis (1978:5) as “[u]ndulating, eroded till plains and gravelly glacio-fluvial plains”, and is intersected near its eastern border by the South Saskatchewan River, which is a steady and reliable source of water in the area and for southern Saskatchewan in general (Sask Water 1999). The Wanuskewin area is further intersected by Opimihaw Creek (Figure 2.2), a tributary of the river which is also responsible for drainage of the immediate area (Acton and Ellis 1978; Walker 1988).



**Figure 2.1:** Opimihaw valley and the South Saskatchewan River, facing east from the western upland area of Wanuskewin Heritage Park (October 2009).



**Figure 2.2:** View of the Park's interpretive center and Opimihaw Creek, facing south (June 2008).

## 2.2 Geomorphology

The Quaternary period spans approximately the last 2.6 million years and is divided into two epochs; the Pleistocene epoch (2.6 mya – 12,000 B.P.) and the Holocene epoch (12,000 B.P. to present day). In North America, complex changes in climate during the Pleistocene resulted in a number of glaciations, the most recent of which was the Wisconsinan glaciation, and these were divided by interglacial (warmer) periods. The beginning of the Holocene came after the final glacial retreat (Simpson 1999).

The geological events during the Quaternary period, specifically the Wisconsinan glaciation, are predominantly responsible for the formation of Saskatchewan's topographic landscape (Simpson 1999). During the Wisconsinan glaciation, Saskatchewan was entirely covered by the Laurentide Ice Sheet (Strahler and Strahler 1992). In times of glaciation, the formation, growth, movement and retreat of ice over land causes significant topographic change. As ice forms on the ground, sediments are picked up and moved along on the surface of the ice and within the ice mass itself. The ice and sediments within it, such as large boulders, can carve into the land, reshaping it, or the sediments can be left behind when the ice melts. Each glacial-interglacial cycle results in the erosion of land and the deposition of sediments (Snook 2008; Strahler and Strahler 1992).

The Wisconsinan glaciation covered the Saskatoon and immediate Wanuskewin area for approximately 8,000 years. During the terminal Pleistocene, the ice sheet began to recede and uncover portions of southern Saskatchewan by approximately 17,000 BP. Around 14,000 B.P., Glacial Lake Saskatchewan was formed during this deglaciation, covering a large area with depths up to 533m. By 11,500 B.P. the Saskatoon and Wanuskewin areas were ice-free with Glacial Lake Saskatchewan disappearing by 11,000 B.P., draining north via channels including

the South Saskatchewan River, into glacial Lake Agassiz and leaving behind lacustrine deposits (Aitken 2002; Christiansen 1979). As part of the area's braided drainage system, the Opimihaw Creek, which extends north from the South Saskatchewan River, was incised into the land as the water levels of the river continued to fall during deglaciation. The Opimihaw Creek is currently an underfit stream responsible for the drainage of the surrounding uplands of the Wanuskewin area (Walker 1983; Burt 1997).

As a result, the area around Saskatoon is open grassland with landscapes "comprised of glacial till [and has] short, steep slopes and numerous undrained depressions or sloughs, although several large, level glacial lake plains also occur" (Padbury and Acton 1999). The result at Wanuskewin is a relatively flat glacial plain, intersected by the Opimihaw Creek (Walker 1983).

### **2.3 Soils**

The soils in the Saskatoon area are predominantly dark brown chernozemic soils. These soils are well to imperfectly drained and are characterized by a high organic content, resulting in a dark coloured A horizon (Acton and Ellis 1978). The B horizon is lighter brown and the C horizon is light grey in colour that has accumulations of lime carbonate (Saskatchewan Land Resource Center 1999). The two associations of chernozemic soils found in the Wanuskewin area are the Bradwell Association and the Weyburn Association along with alluvial and hillwash soils (Walker 1983).

The Bradwell Association soils are found in level or gently undulating landscapes where grassland vegetation is found. They were formed in sandy glaciolacustrine deposits consisting of somewhat fine-textured and moderately calcareous materials with a predominantly loamy texture that can include mixtures of fine sand or clay and are mostly stone free (Acton and Ellis 1978). These soils are found west of the Opimihaw Creek at Wanuskewin (Walker 1983). The Weyburn

Association soils are also formed under the vegetation of grasslands and “developed in medium to moderately fine textured unsorted glacial till and [occur] on undulating and rolling landforms” (Acton and Ellis 1978:36). These soils are similar to the Bradwell Association soils, consisting of loams that have varying textures depending on levels of sand or clay. However, these soils can also be moderately to exceedingly stoney (Acton and Ellis 1978). The alluvial soils at Wanuskewin can be found on the terraces of the creek valley and hillwash soils are found on the “valley slopes and eroding escarpments” (Walker 1983:21).

## **2.4 Climate**

The Saskatoon area has a humid continental climate with cooler summers and a semi-arid moisture index. The average annual temperature is 2.0°C with an annual temperature range of 36.1°C. For 8 to 12 days a year, temperatures reach 30°C or higher with July being the hottest month of the year with a mean daily temperature of 18°C to 19°C. The Saskatoon area also sees 16 to 24 days of -30°C or colder with January averaging around -17°C to 18°C making it the coldest month (Acton and Ellis 1978; Lundqvist 1999).

Southern Saskatchewan is a very sunny region in Canada with Saskatoon getting an average of 2,381 hours of bright sunshine every year. Saskatoon receives approximately 347 mm of precipitation over roughly 105 days of the year, with the highest precipitation levels in June at approximately 63 mm, and the lowest amounts in February with approximately 15 mm. Annual snowfall for the Saskatoon area is 110 cm with the largest snowfalls happening in December and the smallest in September. From March to May, the winds blow in a westerly direction, coming from the east and southeast, while the winds during the months of June to February come from a northeast direction with wind speeds averaging 12 to 18 km/h (Lundqvist 1999).

## 2.5 Flora

Wanuskewin Heritage Park is located near the boundary between the Aspen Parkland ecoregion and the Moist Mixed Grassland ecoregion (Padbury and Acton 1999), which has resulted in some characteristics of both being present in the Wanuskewin area (Walker 1983). The Aspen Parkland ecoregion is the northernmost ecoregion in the Prairie ecozone of Saskatchewan and it is a transitional zone between the northern Boreal Forest and the southern grasslands (Padbury and Acton 1999).

Walker (1983) recognized three physiographic classifications of vegetation in the Opimihaw Creek valley: The Upland Prairie Zone, the Valley Slope Zone and the Floodplain Zone. The Upland Prairie Zone has two vegetation communities: The primary community is composed of native grasses which are dominated by speargrass and northern wheat grass species. Other species interspersed around the area include blue grama grass, harebells, little bluestem, prairie crocus, porcupine grass and three-flowered avens. The secondary community, located on the east side of Opimihaw Creek, “consists of dense thickets of shrubs, such as prairie rose, western snowberry and silverberry” (Walker 1983:23).

The Valley Slope Zone is home to different varieties and communities of vegetation which occur based on the influence of, and proximity to, the South Saskatchewan River and Opimihaw Creek. Located “on the stable valley slopes and transitional areas between lowland and slope zones”, the overstory consists of balsam poplar and plains cottonwood trees, which predominate, but also found here are chokecherry, willow, Manitoba maple and water birch (Walker 1983:23-24). The understory is made up of northern gooseberry, Saskatoon berry, silverberry, western snowberry, woods rose and yellow willow. In areas where slumping has

occurred or where slopes are unstable, bearberry, blue grama grass, creeping juniper, goldenrod, june grass, pasture sage, prairie rose, wild barley and yarrow can be found (Walker 1983).

The Floodplain Zone areas are also home to different vegetation associations “in which the distribution of plant communities is related to the inundation by flood waters” (Walker 1983:24). On the Opimihaw Creek terraces, stands of red ash and Manitoba maple trees predominate while the transitional area between the Valley Slope Zone and the shores of the creek and the river is occupied by shrub complexes that include buckthorn, red osier dogwood, sandbar willow, silverberry, water birch, western snowberry, wolf willow and yellow willow. Closer to the shore’s edge, plants include arrowhead, common horsetail, horsetail, mint, plantain, pond weed and three-squared bulrush. The beaver pond in the park is home to its own vegetation community that consists of beaked sedge, cattail, early blue violet, lesser dockweed, marsh marigold, water parsnip and water sedge (Walker 1983).

## **2.6 Fauna**

Certainly, one of the most important resource mammals to have ever roamed Saskatchewan was the bison and their remains are plentiful in excavations at Wanuskewin (Frary 2009; Pletz 2010; Ramsay 1993). Upwards of 30,000,000 bison once roamed the Plains, and they were a valuable resource to the Plains people who once hunted them (Lott 2002). Bison were procured in North America for approximately 12,000 years, but by the mid-1800s after initial European settlements took place, bison herds were overhunted, which resulted in their extermination throughout the Plains (Banfield 1974; Wapple 1999).

Large herds of pronghorn and elk could also be found on the landscape but they “were largely eliminated to make room for agricultural settlement” (Wapple 1999:142). Pronghorn and elk herds were not wiped out to the scale the bison populations were, but they were forced to

change their living ranges (Waple 1999). Mule deer and white-tailed deer were also present in historic times, and both are now the largest mammals present in the Opimihaw Valley.

Today, carnivores in the area include the coyote, weasel, red fox, mink, badger and skunk (Walker 1983; Waple 1999). When the herds of elk and pronghorn were eliminated and forced to migrate, the animals that preyed on them lost their food supply and they were also killed and trapped for fur. Mountain lions, black bears and lynx are extirpated species that are no longer present in the Opimihaw valley, while the grey wolf shifted its range to northern Saskatchewan and the plains form of grizzly bear was eradicated (Frary 2009; Waple 1999).

Other mammals in the area include shrews as well as lagomorphs such as snowshoe hare and white-tailed jackrabbits. Populations of rodents include muskrat, porcupine, beaver, the northern pocket gopher, chipmunks, and different species of ground squirrels, mice and voles (Walker 1983; Waple 1999).

Saskatchewan has 414 non-migratory bird species and the province is very important to many of Canada's other bird species because it acts not only as a nesting and breeding habitat, but also as a resting or overwinter area for migratory birds such as Canada geese and white pelicans who make the South Saskatchewan River home in the summer (Smith 1999). Wanuskewin is home to almost 200 species of birds that belong to 48 families; some of the more impressive species that have been spotted include the Great Horned Owl and Great Blue Heron (Walker 1983; Wanuskewin Heritage Park 2011).

Saskatchewan is also home to a very small number of amphibians and reptiles. Those that can be found in the Saskatoon and Wanuskewin areas include the boreal chorus frog, northern leopard frog, wood frog, the tiger salamander and the Canadian toad while snake species include the red-sided garter and plains garter snakes (Didiuk 1999). Fish found in the South



Saskatchewan River include yellow perch, walleye, lake whitefish and northern pike (Merkowsky 1999), and molluscs are represented by freshwater species of snails and clams (Pletz 2010).

## Chapter 3

### Culture History

#### 3.1 Introduction

People have been living on the Northern Plains for almost 12,000 years. During that time, shifts have occurred which are visible within the archaeological record. In Plains archaeology, we rely heavily on the stylistic and functional changes that took place in tool production and use that mark such shifts to determine when and by whom sites were occupied. Based on these shifts, we can see that the Precontact Period can be divided into three sub-periods; Early, Middle and Late, and each period is marked by a significant change in technology or new innovation. The predominant tool that has changed stylistically over time is the projectile point and, as will be demonstrated throughout this chapter, each group has its own variation which, along with absolute dating techniques, has given us reliable means to determine the chronology of Plains archaeological sites. Pairing this chronology with the other information extracted from archaeological sites, such as artifacts and features, has allowed archaeologists to determine the activities being performed by certain groups and to determine some of the static and dynamic aspects of precontact lifeways on the Northern Plains.

There are a number of terms used in archaeology to define archaeological cultures. A *complex* refers to a common group of artifacts that are found within archaeological sites that are spread out over a very large geographic area (Bubel et. al. 2012). A *series* is “a sequence of archaeological components sharing a common space (sometimes within a single site, sometimes within a region), but belonging within separate segments of time”. The components also demonstrate progressive change, such as in the morphology of projectile points (Dyck 1983:69).

A *phase* is a smaller archaeological group of unique components that are spatially related but the geographic area and the duration are restricted to a specific period of time (Bubel et. al, 2012).

### **3.2 Early Precontact Period (11,300 – 8,000 B.P.)**

The Early Precontact Period occurs at the beginning of the geological time period known as the Holocene. During this period, a number of different cultural groups inhabited the Plains. Clovis is currently accepted as the oldest cultural group in North America followed by Folsom, Agate Basin, Hell Gap and the Cody Complexes (Bubel et. al. 2012). All were hunter-gatherers and are typically identified based on the shared lanceolate-shape of their individual projectile point styles. These projectile points were used in conjunction with spear technology to hunt large and small game. In the case of the Clovis people, there is evidence for the hunting of the last of the Pleistocene megafauna, such as mammoth and mastodon, while subsequent groups hunted now-extinct species of bison such as *Bison antiquus* and *Bison occidentalis* (Peck 2011; Walker 1999).

During the terminal sequence of this period, between 8,500 to 7,500 B.P., the projectile points of the Plains/Mountain Complex, and the Lusk Complex are thought to reflect a transition in hunting technology. This is due to the observed morphological changes of the projectile points. It seems that, during this transition, spear-hunting was being abandoned for dart and atlatl technology (Bubel et. al. 2012) which will be discussed further in the following section. While evidence for occupation by Early Precontact groups is certainly present in Saskatchewan, there is no evidence that Wanuskewin was occupied during this period as the Opimihaw Valley was a braided channel of the South Saskatchewan River at that time.

### **3.3 Middle Precontact Period (7,500 – 1,350 B.P.)**

As mentioned, a shift in hunting technology marks the beginning of the Middle Precontact Period. Spears were discarded in favour of dart and atlatl technology which is recognized in the archaeological record by the change in projectile point morphology. The most obvious changes involve the appearance of side- and corner-notching of the basal ends of most of the points. These points were fashioned into darts that were used with an atlatl; a carved wood rod with a small hook-like protrusion at one end that fit into a notch carved into the base of each dart (Bubel et. al. 2012; Kooyman 2000). The atlatl acted as an extension of the arm and the point where the hand held the atlatl also functioned as an extra joint. This extension allowed for greater velocity and accuracy while also allowing the hunter to maintain a safe distance from the animals being hunted. This differs from spear-hunting where the hunter needed to be in close proximity in order to throw or thrust the spear into the prey (Bryan 2005). While bison were still regularly procured for food, the subsistence base was widened to utilize more secondary resources (Peck 2011; Walker 1999).

The beginning of this period also coincides with a climatic trend referred to as the Hypsithermal that occurred from 7,500 – 5,000 years B.P. During this time, the climate shifted to warm and dry conditions. While the climate change affected different parts of the Plains quite significantly, the Wanuskewin area was not so affected (Schiele and Walker 2013). Stead's study of Hypsithermal-era plant phytoliths at the Redtail site determined that while C<sub>4</sub> plants, which grow in warmer more arid conditions, were present in the area, the plant communities were still dominated by C<sub>3</sub> plants which thrive in cooler, wetter conditions. Stead concluded that the higher percentage of C<sub>3</sub> plants may have been a factor in continually drawing nomadic groups to the area which supports a theory put forth by Smith (2012:187) that the Opimihaw Valley may have

been a “terrestrial island on the plains”. Smith (2012:208) argued that “regardless of climatic variations that occurred, humans continued to utilize the Opimihaw Creek Valley area as is evidenced by the presence of multiple cultural occupations from each stage of the Middle Precontact Period”.

The earliest part of the period begins with the Mummy Cave Series which dates to between 7,500 and 5,000 B.P. and includes a number of different styles of notched dart points (Walker 1992). Mummy Cave is the oldest occupation found at Wanuskewin and artifacts from this time period have been found at the Dog Child site (Cyr 2006; Pletz 2010) as well as the Cut Arm site (Smith 2012).

Subsequent to the Mummy Cave Series is the Oxbow Complex, which dates to approximately 4,500 – 4,000 B.P. The associated dart points are easily identifiable by the distinct shape of the distinct ears that are rounded at the base (Bubel et. al. 2012:19). It is thought that stylistic similarities between Mummy Cave points and Oxbow points suggest cultural continuity and a direct evolution from one to the other. However, there is some argument about which style of point within the Mummy Cave Complex was the direct precursor to the Oxbow point (Peck 2011). In Wanuskewin Heritage Park, sites where Oxbow materials have been found include the Amisk site (Amundson 1986), the Dog Child site (Cyr 2006; Pletz 2010) and the Wolf Willow site (Maria Mampe, personal communication 2014).

The McKean Complex dates from approximately 4,300 to 3,400 B.P. and was the primary focus of a previous thesis done on the lower levels of the Red Tail site by Charles Ramsay (1993). The McKean Complex is comprised of three different projectile point forms known as McKean, Duncan and Hanna. Interestingly, none of them are notched, but each is distinct in shape, though slight variations can occasionally cause difficulty when attempting to

identify the individual forms. There has been some argument that the point styles are a chronological sequence (as listed here from oldest to youngest) but all three forms, or combinations of the three, have been found together in context, suggesting contemporaneous use (Bubel et. al. 2012; Peck 2011).

Eleven diagnostic artifacts of the McKean Complex were uncovered during excavations at the Red Tail site. These include seven Hanna points from levels 11, 12(1) and 12(2), one Duncan point base and one McKean point base from level 13(2) and two McKean points from level 13(4). Radiocarbon dates from these levels range between 4,280 +/- 80 B.P. from level 13(4) and 3,570 +/- 80 B.P. from level 11. These dates are within the accepted time frame for McKean occupation on the Plains (Ramsay 1993). Aside from the Red Tail site, McKean Complex artifacts have also been found at other archaeological sites within the Wanuskewin Heritage Park boundaries, including Thundercloud (Mack 2000), Meewasin (Frary 2009), Dog Child (Pletz 2010), Cut Arm (Smith 2012) and Wolf Willow (Maria Mampe, personal communication 2014), representing a strong McKean presence in the Wanuskewin locale.

The Pelican Lake Complex succeeds McKean and is divided into classic Pelican Lake and the later Bracken Phase. Pelican Lake points are the earlier type, dating from 3,600 to 2,800 B.P. Pelican Lake points are quite recognizable, as they are long, symmetrical points with deep corner-notching that creates a very narrow neck and a narrow base (Bubel et. al. 2012). Kooyman (2000:281) describes Pelican Lake projectile points as resembling “a stylized Christmas tree”. The later type of point belonging to the Pelican Lake Complex is the Bracken Phase point and it dates from 2,800 to 2,100 B.P. Bracken points very much resemble Pelican Lake points and it can be difficult at times to distinguish between the two but, generally, the neck and base widths of Bracken points are wider with the shoulders being less barbed than those of

Pelican Lake points. They also tend to have more convex bases (Dyck 1983; Peck 2011). At Wanuskewin, Pelican Lake Complex points have been found at the Newo Asiniak (Kelly 1986), Thundercloud (Mack 2000) and Meewasin sites (Frary 2009).

The Besant Complex dates from 2,500 to 1,350 B.P. and overlaps slightly with the Pelican Lake Complex. The Besant people represent “an extremely sophisticated bison hunting manifestation” on the Northern Plains (Kornfeld et. al. 2010:125) and the level of bison procurement is described as a “cultural climax” that was never repeated by any other Plains groups (Dyck 1983:113). While they utilized jumps for mass kills, they were also very skilled in building and using corrals in conjunction with topographic features to trap and kill bison and, it is speculated, that they would obtain surplus meat to store for winter and, possibly, for trade (Kornfeld et. al. 2010; Walker 1999).

Besant projectile points can show considerable variation. They all exhibit side-notching, but can be finely crafted or crudely made with a convex, straight or slightly concave base. They typically have a lenticular cross-section, have been found as both symmetrical and asymmetrical forms and have both large and small variations (Bubel et. al. 2012). Besant is present at the Red Tail site, represented by two bases found in level 1/2. It is also represented at the Newo Asiniak (Kelly 1986), Thundercloud (Mack 2000), Meewasin Creek (Frary 2009), and Cut Arm (Smith 2012) sites in the park.

Pottery makes its first appearance around this time as well. It is crude and fairly basic, mostly taking on a conoidal form. It was made with grit or sand temper and has a cord-marked or smooth exterior finish (Dyck 1983). It is not common to find Besant pottery in Saskatchewan, but it does occur very regularly in the Middle Missouri area which is home to a southern expression of Besant known as the Sonota Complex. This complex is also associated with burial

mounds which have never been observed on the Northern Plains (Bubel et. al. 2012; Dyck 1983). Because pottery is seldom found in association with Besant components and since there is continued use of dart and atlatl technology, it is the opinion of the author that this complex belongs in the terminal Middle Precontact Period rather than the early Late Precontact Period, but is certainly reflective of a transitional era.

### **3.4 Late Precontact Period (1,350 – 250 B.P.)**

According to Walker (1999:26), the Late Precontact Period is a “time of considerable technological innovation”. One of these innovations was a shift in hunting technology, whereby the dart and atlatl were replaced by the use of the bow and arrow. There are a number of reasons why the bow and arrow are superior to the former technology. For instance, smaller points on the arrows allow for greater velocity and accuracy as well as longer range. Points and arrow shafts are also smaller and easier to fashion as well as transport. Furthermore, arrows can be shot in faster succession than darts, the bow and arrow are easier to use in a small or confined space and they also allow the archer to use different body positions. Finally, an arrow can be drawn slowly, which minimizes sudden movements so as not to startle prey (Christianson 1986; Kornfeld et. al. 2010).

The use of pottery took firm hold at this time as well. As mentioned, in the late Middle Precontact there is a very small quantity of pottery associated with the Besant Complex, but this changes significantly at the beginning of the Late Precontact Period; pottery becomes more common as well as more refined in construction and decoration and is found frequently throughout this period (Meyer and Walde 2009). Both the exclusive use of the bow and arrow and the significant use of pottery are defining factors of the Late Precontact Period (Walker 1999).



The Avonlea Phase occurs at the beginning of the Late Precontact Period and is short-lived, dating from approximately 1,350 to 1,100 B.P. Avonlea projectile points are small, thin, flat-surfaced points with slightly concave bases and shallow notches low on the lateral margins. The blade edges are straight to convex and the points, generally, are finely worked (Bubel et. al 2012; Kooyman 2000). The Avonlea people hunted bison very successfully with the bow and arrow, also utilizing traps and pounds, as well as the occasional bison jump (Dyck 1983).

Avonlea pottery has been divided into four separate wares: Rock Lake Net/Fabric Impressed Ware, Ethridge Cord-Roughened Ware, Truman Parallel-Grooved Ware and Plain Ware; however, Rock Lake is the most common ware found in Saskatchewan (Meyer and Walde 2009). Previous to the advent of pottery, boiling pits were dug into the ground, lined with hide to waterproof them and then filled with water and heated rocks. Clay pots played a major role in food production as well as food storage (Brink 2008). Both Avonlea pottery and projectile points are present at Wanuskewin sites, including Red Tail in level 1/2, Amisk (Amundson 1986), Newo Asiniak (Kelly 1986), Thundercloud (Mack 2000), Tipperary Creek (Harty 2005) and Meewasin Creek (Frary 2009).

In Saskatchewan, the last 1000-year span of the Late Precontact period is referred to as the Late Side Notched Period (Dyck 1983). At this time, bison were still heavily hunted utilizing many of the same techniques as in previous periods such as jumps, pounds and traps. This period is subdivided into two complexes, the first of which, the Prairie Side Notch complex, dates from 1,100 to 600 B.P. (Walker 1999). Prairie Side Notch points are small arrow points, but they are slightly larger and more coarsely produced than Avonlea points. They have broad notches that are very close to or, in some cases, touching the base and have slightly convex blade edges (Bubel et. al. 1999). The associated Old Women's Phase pottery can be quite distinct; vessels are

globular in shape and may have angular shoulders. They are often undecorated but can “display cord-wrapped tool impressions, incisions, or punctates” around or below the rim (Walker 1999:27; Walde et. al. 1995).

The later subdivision of the Late Side Notch Period is referred to as the Plains Side Notch Complex and dates from 600 – 250 B.P. The projectile points from this complex are also small arrow heads, but can be more finely crafted. They are also more triangular in shape, partly due to the fact that the notches are located “high on the lateral margins” (Walker 1999:27). The associated Mortlach pottery is typically thin-walled and well made, but it can vary in form and decoration. In some cases, it can have a smooth exterior, but in others it might display a rougher, textured exterior due to the use of cord or fabric-wrapped tools used in the formation of the vessel. Incising, cord-wrapped tool impressions on the lip and/or a row of punctates around the rim may also be present (Walde et. al. 1995). Both Prairie Side Notch Complex and Plains Side Notch Complex artifacts have been found at sites in Wanuskewin, including Amisk (Amundson 1986), Newo Asiniak (Kelly 1986), Tipperary Creek (Harty 2005), Meewasin (Mack 2000), Dog Child (Pletz 2010), Cut Arm (2012) and Wolf Willow (Devon Stumborg, personal communication 2014).

## **Chapter 4**

### **Methodology, Radiocarbon Dates and Stratigraphy**

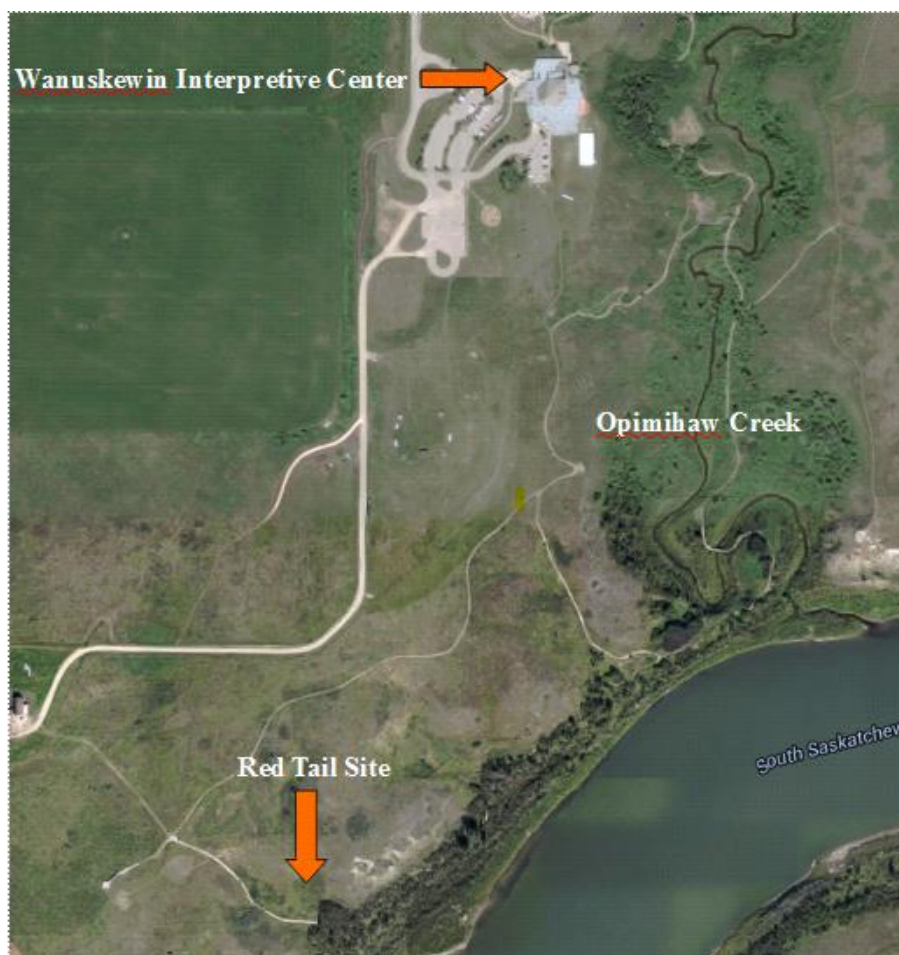
#### **4.1 Site Discovery and Assessment**

The Red Tail site is located in a drainage basin approximately 300 m east of the South Saskatchewan River, near the southern boundary of the Wanuskewin Heritage Park property. While testing and artifact recovery by Dr. E.G. Walker done in 1982 led him to determine that it was a multicomponent habitation site (Walker 1983), Charles Ramsay notes that the site may have been previously identified in the 1930s or 1940s by H.K. Cronk and also recorded by Boyd and Dorothy Wetlauffer (Wetlauffer 1951). Cronk was already familiar with other sites situated within the Park boundaries, such as the Tipperary Creek site (FbNp-1), the Tipperary Medicine Wheel site (FbNp-2) and the Sunburn Tipi Ring site (FbNp-7). Cronk indicated a ravine area near the tipi ring and medicine wheel sites that he believed could possibly be a winter-kill site due to the discovery of bison bones. Ramsay believed that Cronk may have been referring to the Red Tail site because of its close proximity to the tipi ring and the medicine wheel as well as the significant amount of bone that was eroding out from areas of the site (Ramsay 1993).

#### **4.2 Methodology**

##### **4.2.1 Excavations and Field Methodology**

In the summers of 1988 and 1989, 44 m<sup>2</sup> were excavated at the Red Tail site by field school students from the University of Saskatchewan and volunteers during a volunteer week hosted by the Saskatoon Archaeological Society. A field crew was also employed for part of each field season. Charles Ramsay, a graduate student under the supervision of Dr. Walker,



**Figure 4.1:** Satellite view of the Wanuskewin Heritage Park area (Adapted from Google maps 2015)

helped to supervise the excavations and went on to write a Master's thesis on levels 8 to 15 of the Red Tail site, focusing on the McKean occupation levels.

One-by-one meter units were excavated following natural stratigraphic levels with arbitrary 5 cm or 10 cm sub-levels used in thicker deposits to provide better stratigraphic control. The soil was screened using ¼ inch mesh and some water screening took place as well in an attempt to find botanical remains. Within the units, artifacts and features were mapped using a site datum and three-point provenience, level records were kept and planview drawings were made. The excavated artifacts from levels 8 to 15 were washed and the artifacts from every level were analyzed, weighed, and catalogued then placed in a bag with an information card. Soil

samples were taken from features for flotation analysis as well, only six of which were analyzed due to funding restrictions. Photos were taken of all of the unit walls and wall profile drawings were made. Stone tools, associated manufacturing debris, and faunal remains were analyzed, and seven bone samples were sent away for radiocarbon dating (Ramsay 1993).

#### **4.2.2 Upper Level Methodology**

In January of 2011, boxes of artifacts and soil samples from the Red Tail excavations that had been held in storage at Wanuskewin Heritage Park were retrieved and were brought to the university to be sorted. After identifying the upper level artifacts, including level 8, the artifacts were separated for identification, cataloguing and study.

Working with the artifacts and associated data in a secondary capacity for this project was certainly a difficulty to overcome as over two decades had passed between the last excavation and the time everything was collected from Wanuskewin. While the excavators kept records of the levels and attempted to excavate in natural layers by observing changes in the colour and texture of the soil matrix, level corrections still needed to be done in order to maintain consistency throughout the site. Ramsay did not do corrections for the upper levels for the majority of the units, so the depths of each cultural level had to be determined using the original profile drawings that were done once the excavations were complete. Datums were placed in the southwest corner of each unit by Ramsay and by examining the profile drawings of the north and south walls in relation to the datum it was possible to establish the minimum and maximum depths of each cultural level. This created some overlap in a few instances, but this could generally be overcome by examining the soil colour or composition recorded on the level record forms, by examining artifact locations on the planview drawings or by examining relationships and associations between artifacts.

The majority of the artifacts had to be washed and many of the lithic items had to be sorted into material and usage types. Each artifact was weighed, assigned to a level and then bagged with a numbered index card that corresponds to the catalogue. The artifacts were then bagged by unit and then boxed and organized numerically according to their eastern designation within the site. A paper catalogue was kept but Microsoft® Access™ 2010 was used to keep an electronic recording as well as for ease of data analysis. When the catalogue was complete, the data was queried to determine different attributes and themes of activities that took place at the site and to identify concentrations of artifacts. In total 9861 artifacts were identified. Planview maps of each level were then made using OpenOffice Draw™ 4.1.1.

### **4.3 Artifact Analysis**

The artifacts were identified and separated into seven separate categories: pottery, lithics, faunal, organic, glass, plastic and metal. Items from the last three categories were of recent historic origin and are not included in the analysis of the site.

#### **4.3.1 Pottery Assemblage Classification**

Only one piece of pottery was uncovered for the entire Red Tail site. Dr. D. Meyer, Professor Emeritus of the Department of Archaeology and Anthropology at the University of Saskatchewan was not able to confirm an identification of the pottery sherd.

#### **4.3.2 Lithic Assemblage Classification**

The lithic artifacts were sorted into four categories: Flaked tools, unformed tools, debitage and fire-cracked rock. Flaked tools consist of any intentionally modified tools, including projectile points, scrapers and bifaces. Unformed tools include items such as hammerstones, polished cobbles and anvils or those that are modified through use. Debitage is separated into cores, core fragments, primary flakes, secondary flakes, tertiary flakes and shatter,

though it should be noted that cores and core fragments are discussed separately from other debitage in the level chapters. According to Kooyman (2000), flakes can be identified based on the presence or absence of cortex on their dorsal surfaces. The dorsal surfaces of primary flakes are entirely composed of cortex while secondary flakes are partially absent of cortex. Tertiary flakes are completely absent of cortex. All flakes demonstrate ventral surface features such as bulbs of percussion, ripple marks and fissures. Some also demonstrate dorsal scarring. Shatter is composed of any small piece of lithic material that has been unintentionally detached from a lithic core during the process of flintknapping (Andrefsky 2005; Kooyman 2000). Shatter tends to be “angular, chunky or blocky pieces with no particular form...and basically lack all of the ventral surface features [of flakes]” (Kooyman 2000:14-15). While Kooyman (2000) was used to identify these artifacts, the comparative lithic collection in the Department of Archaeology and Anthropology, as well as Johnson (1998), were used to identify the raw lithic materials. The department’s comparative collection was also used to identify the material types of fire-cracked rock.

#### **4.3.3 Faunal Assemblage Classification**

Faunal specimens include bone, teeth and tooth enamel. These items were identified and then described as being either unburned, burned or calcined and taphonomic processes such as root etching, cut marks or gnaw marks were identified as well. Identifiable specimens were placed into the elements category and sided if possible. With the help of Dr. E. Walker and the Department of Archaeology and Anthropology’s zooarchaeological comparative collection, the identifiable elements were then given taxonomic designation. Those that could not be wholly identified based on the traditional Linnaean system were then classified based on the mammalian size class system offered in Dyck and Morlan (1995) whereby six size classes range from very

large mammals such as *Bison bison* to micro mammals such as *Microtus ochrogaster* (prairie vole). If possible, age was also determined using the department's zooarchaeological collection. Once all of the identifiable elements were categorized, it was possible to determine the minimum number of individuals of each taxonomic designation in each level. This was done by calculating the number of repeating elements in each level and, where applicable, by the ages of each individual (mature versus immature).

#### **4.4 Radiocarbon Dating**

Three radiocarbon dates for two levels were obtained for this thesis (Table 4.1). The samples were comprised of *Bison bison* bone fragments and charcoal and were tested in July of 2015 by Beta Analytic Incorporated in Miami, Florida. These are reported as calibrated dates in this thesis.

Sample Beta-414924 was retrieved from a *B. bison* petrous temporal fragment and used to date level 2. This sample weighed 5.1 g and was located in unit 121N 104E. This sample was chosen for its density and stratigraphic context in an area of the site where good stratigraphic separation occurs between levels 1 and 2.

While Ramsay (1993) was able to successfully obtain 7 radiocarbon samples from the lower levels of the Red Tail site, his attempt to date level 8 was unsuccessful. It was decided to send two samples from level 8 to be tested, in part because of the first unsuccessful attempt, but also because level 8 contains an important house pit feature. Sample Beta-414925 was retrieved from 85.2 g of *B. bison* basioccipital bone fragments and was recovered from unit 120N 107E. The sample was chosen for its density. Sample Beta-414926 was retrieved from charcoal excavated from unit 124N 111E and was also used to date level 8. This sample was chosen for its



volume (50 pieces weighing 1.7 g) and its proximity to the house pit feature. Below, all of the dates obtained for the Red Tail site are listed.

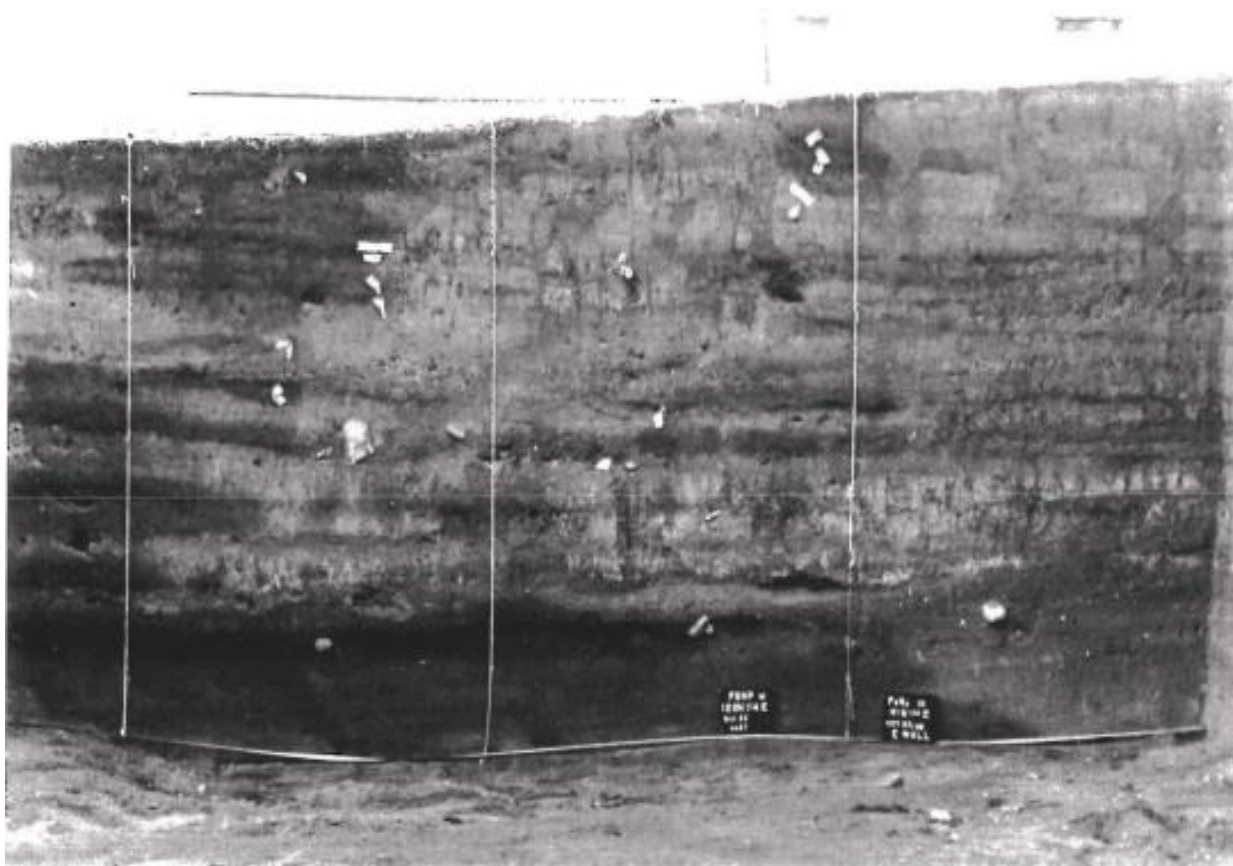
**Table 4.1:** Radiocarbon Testing Results

Level	Sample	Material	Calibrated Age B.P.
2	Beta-414924	Bone	1340
8	Beta - 414925	Bone	3440
8	Beta-414926	Charcoal	3300
11	S-3372	Bone	3480
12(1)	S-3373	Bone	3470
12(2)	S-3008	Bone	3660
13(2)	S-3374	Bone	3860
13(2)	S-3375	Bone	3880
13(4)	S-3009	Bone	4280
15(2)	S-3007	Bone	5010

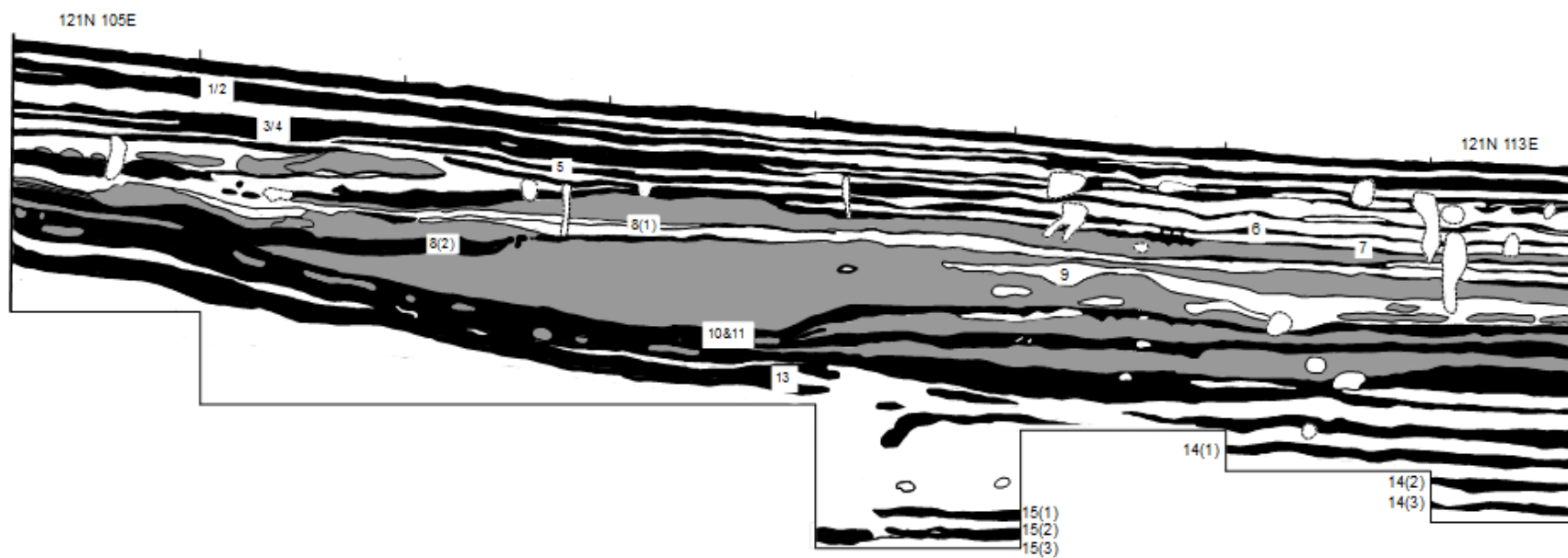
## 4.5 Stratigraphy

As mentioned, the Red Tail site is located in a drainage basin near the southwest boundary of Wanuskewin Heritage Park and is the southernmost excavated site at the park. The stratigraphy is quite complex as the strata at the Red Tail site are comprised predominantly of colluvial and alluvial deposits. The slope has made the site susceptible to hillwash deposits and the site's proximity to both an ephemeral stream to the north and the South Saskatchewan River to the east means that deposition as the result of flooding also figures into the site formation processes (Ramsay 1993; Stead 2013).

Ramsay (1993) analyzed the modern surface of the site and determined that it slopes approximately 4.5° west to east and shifts slightly north about midway through the site (Figure 4.2). The upper cultural levels, especially in the northern half of the site, tend to follow this pattern as well. Cultural levels also tend to be significantly deeper in the western and southern areas of the site while in the northeast they become shallower and more compressed (Figure 4.3). These characteristics have resulted in level that cover deceptively large ranges of depths when, in fact, each level is really only between 2 cm – 15 cm thick (Table 4.1).



**Figure 4.2:** East wall of the excavation block demonstrating the south-north oriented slope (Ramsay 1993:76).



**Figure 4.3:** North walls of units 121N 105E – 121N 113E demonstrating the west-east oriented slope as well as the complex stratigraphy present at the Red Tail site (Adapted from Ramsay 1993).

**Table 4.2:** Level depths and soil descriptions for the Red Tail site.

Cultural Level	Minimum Depth	Maximum Depth	Soil Description
1/2	3 cm	32 cm	Greyish brown; loamy sand
3/4	10 cm	45 cm	Dark greyish brown; loamy sand
5	18 cm	53 cm	Brownish grey; loamy sand
6	18 cm	58 cm	Brownish grey; loamy sand
7	19 cm	69 cm	Very dark grey; sandy loam
8	29 cm	100 cm	Grey; loamy sand

There are 15 cultural levels at the Red Tail site. Of the levels studied for this thesis, two of them were discontinuous in areas of the site. Level 5 is a fairly thin layer (Table 4.2) and is absent in approximately 22% of the excavated area. Level 6 also had some discontinuity, but is only absent from approximately 11% of the excavated area. In portions of the site, Ramsay (1993) identified secondary and, in some cases, tertiary and quaternary sublayers that all belong to the same cultural level. For instance, he mentions that in some cases level 4 splits into two bands and he identifies these as 4a and 4b. As a result of the process undertaken to determine the level depths for this study, as well as a lack of consistency in the field and associated paperwork, it was not possible to identify these separations with any accuracy as too much overlap occurred. Therefore, only a basic cultural level could be assigned to each artifact.

## **Chapter 5**

### **Cultural Levels 1 & 2**

#### **5.1 Introduction**

Cultural levels 1 and 2 are the most recent deposits at the Red Tail site. These levels are examined together as a single level because separation between the two occurs in only six out of the forty-four units. In his thesis, Ramsay (1993) states that cultural levels 1 and 2 are seldom distinguishable and they are assigned the same sediment characteristics. The sediment is described as loamy sand that is greyish brown in colour with level 2 being slightly darker than level 1. The minimum depth for this level is 3cm and the maximum depth is 33 cm; the level itself is only 3 to 15 cm thick. Avonlea and Besant projectile points were recovered from this level which indicates a late Middle Period or early Late Period occupation. This is supported by a radiocarbon date of 1340 B.P. for level 2.

#### **5.2 Pottery Assemblage**

In level 1/2, a single sherd of pottery was recovered from unit 124N 111E in the southwest quadrant between 5 and 8 centimeters below surface (Figure 5.1). It weighs 1.0 g and has visible grit temper, but no identifiable marks that might offer clues as to how it was made and therefore cultural association cannot be determined. This is the only piece of pottery uncovered at the site.

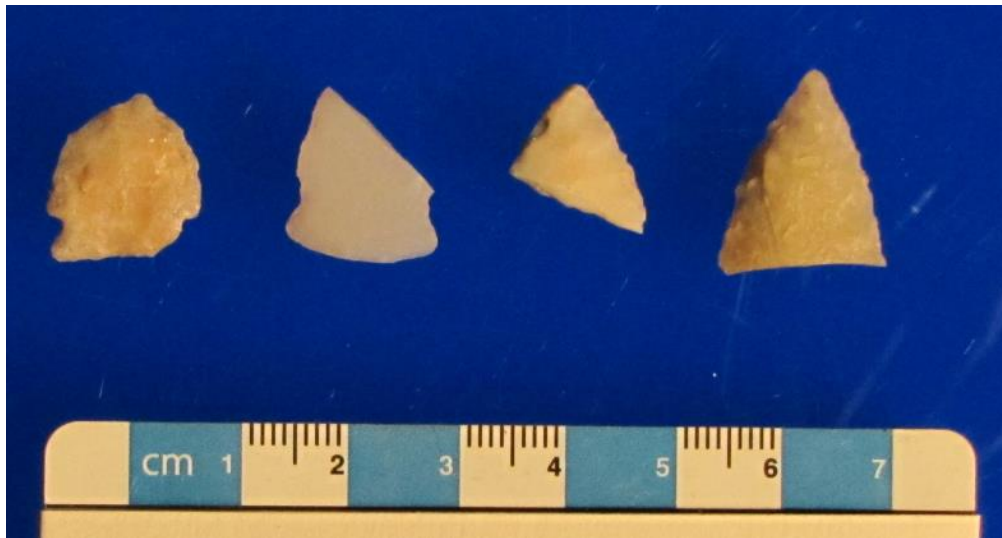


**Figure 5.1:** Pottery sherd.

### **5.3 Lithic Assemblage**

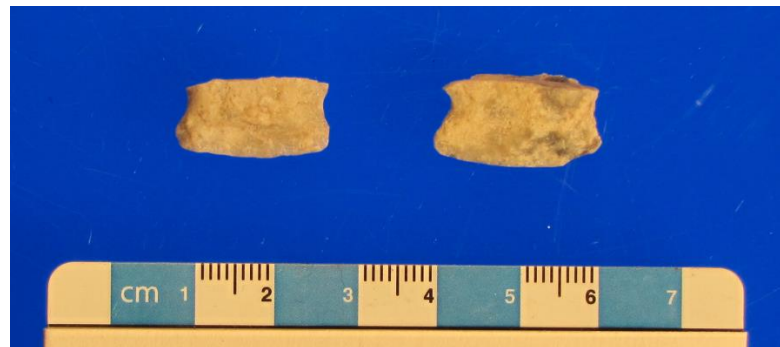
#### **5.3.1 Projectile Points**

Diagnostic artifacts in the upper levels of the Red Tail site are very minimal and all of them were found in level 1/2. There are two Avonlea points (Figure 5.2), the first of which is made of agate and is missing the tip. This point was uncovered during the 1982 test excavations in a test pit that later became units 124N 105E and 124N 106E in the field school excavations. The second point is made of heat-treated Swan River Chert and is missing a corner of the base. This point was recovered during the 1988 field school season. Both Avonlea points were located in the western portion of the site. Additionally, two projectile point tips were recovered along with the Avonlea point from the 1982 test pit (Figure 5.2). The first tip is made of chalcedony and the second is made of chert, but as the bases are missing, cultural association is not possible.



**Figure 5.2:** Avonlea points and possible Avonlea point tips.

Two Besant point bases have also been identified and both are made of heat-treated Swan River Chert (Figure 5.3). These were both uncovered in unit 120N 106E in the southwestern corner of the site.



**Figure 5.3:** Besant point bases.

### 5.3.2 Other Flaked Tools

As with projectile points, other flaked tools in level 1/2 are also quite minimal. A small scraper made of Gronlid siltstone was also uncovered in the 1982 test pit (Figure 5.4). During field school excavations, a second scraper, made of Swan River Chert was located in unit 121N 112E (Figure 5.4). A biface made of silicified wood, identified as possibly being a preform for a small knife or projectile point, was recovered from unit 121N 105E (Figure 5.5).



**Figure 5.4:** Scrapers.



**Figure 5.5:** Biface.

### 5.3.3 Core Fragments

Three core fragments in total were recovered from this level. One, made of agate, was located in unit 121N 104E which is the most westerly unit of the excavation. The other two fragments, made of Swan River Chert, were found in units in the eastern third of the site. The fragment found in unit 122N 112E, weighs 16.9 g and the fragment found in unit 123N 114E weighs 13.1 g.

### 5.3.4 Debitage

In this level, a total of 726 pieces of debitage were recovered (Table 1). Shatter is by far the most common form, totaling 91.06% of this level's debitage assemblage. This is followed by tertiary decortification flakes at 6.33%, secondary decortification flakes at 1.65% and primary decortification flakes representing the last 0.96%.

The most common lithic material is Swan River Chert, making up 49.86% of the total (25.96% of which is heat-treated), followed by quartz at 10.74% and chert at 9.50%. The remaining 30.80% is made up of 12 other lithic material types. All are considered to be local with the exception of two pieces of shatter which are of indeterminate material, as well as debitage identified as Knife River Flint, which comes from central North Dakota (Kay 1998).



**Table 5.1:** Lithic debitage from Level 1/2.

Material Type	Primary Flakes	Secondary Flakes	Tertiary Flakes	Shatter	Total	Percent
Basalt	2	-	1	3	6	0.82%
Chalcedony	-	-	-	1	1	0.13%
Chert	-	1	5	63	69	9.50%
Chert Precipitated in Limestone	-	-	1	14	15	2.06%
Fused Shale	-	-	-	9	9	1.23%
Gronlid Siltstone	2	1	4	26	33	4.54%
Knife River Flint	-	-	8	27	35	4.82%
Silicified Peat	-	3	1	26	30	4.13%
Silicified Wood	-	-	-	4	4	0.55%
Siltstone	-	-	1	12	13	1.79%
Swan River Chert	3 (H/T=1)	5 (H/T=2)	20 (H/T=2)	334 (H/T=89)	362 (H/T=94)	49.86% -
Quartz	-	-	-	78	78	10.74%
Quartzite	-	2	5	61	68	9.36%
Indeterminate	-	-	-	3	3	0.41%
Total	7	12	46	661	726	%
Percent	0.96%	1.65%	6.33%	91.06%	%	

### 5.3.5 Unformed Tools

The only unformed tool identified in this level is one polished granite cobble that may have been used for burnishing. The area on this tool with a high degree of polish indicates that it was buffed against another surface, creating this finish. This cobble weighs 136.2g.

### 5.3.6 Fire-Cracked Rock

There are 159 pieces of fire-cracked rock in level 1/2 with a total combined weight of 3668.1 g. Granite is the dominant material representing 99.81% of the total for this level, while one piece of quartzite and one piece of indeterminate material make up the remaining 0.19% (Table 2).

**Table 5.2:** Fire-Cracked Rock Level 1/2.

Material Type	Number of Pieces	Mass (g)	Percent by Count	Percent by Mass
Granite	157	3661.2	98.74%	99.81%
Quartzite	1	5.6	0.63%	0.15%
Indeterminate	1	1.3	0.63%	0.04%
Total	159	3668.1	100.00%	100.00%

## 5.4 Organic Material

Thirty pieces of charcoal were recovered from between 15 and 25 cm below surface, from all four quadrants of unit 120N 107E. Combined, all 30 pieces weigh less than 1 g.

## 5.5 Faunal Assemblage

This level contained 527 fragments of bone and teeth and tooth enamel, both identifiable and unidentifiable with a total combined mass of 730.0 g (Table 3). The majority of the bone recovered, 80.27%, was unburned, while burned bone and calcined bone occurred much less frequently at 7.02% and 4.36% respectively. Only 8.35% of the faunal assemblage recovered for this level was identified as teeth or tooth enamel and both are represented together in Table 3. All of the teeth and tooth enamel was unburned.

**Table 5.3:** Faunal Counts Table for Level 1/2.

Condition	Count	Mass (g)	Percent
Unburned bone	423	472.9	80.27%
Burned bone	37	11.5	7.02%
Calcined bone	23	8.7	4.36%
Enamel	44	36.9	8.35%
Total	527	530.0	100.00%

### 5.5.1 Taxon and Element Identification

The bulk of the faunal remains in this level were only attributable to the taxon of mammal, leaving 4.17% of the remains to be identified based on order, species or size class (Table 4). Sixty-three percent of the identifiable remains were classified as *Bison bison*, with the most commonly occurring elements being molars or molar fragments. Unfortunately, these were

not useful in determining MNI. However, two right-sided petrous temporal bones were identified in this level and offer a count of two adult individuals (Table 5).

A mandible fragment, with some teeth intact, has been identified as belonging to the order Rodentia, but it is believed that this specimen is intrusive to the site. The remaining specimens of the identifiable faunal remains were only attributable to size class and offer no further information.

**Table 5.4:** Faunal Taxa for Level 1/2.

Taxon	NISP	Mass (g)	MNI
<i>Bison bison</i>	14	156.7	2
Order Rodentia	1	<0.1	1
Large or Very Large Mammal	2	0.9	N/A
Very Large Mammal	4	33.3	N/A

**Table 5.5:** *Bison bison* Quantification by Element for Level 1/2.

Element	Left	Right	Axial	Indeterminate	Total Number	MNI
First mandibular molar fragment	-	-	-	1	1	1
Humerus fragment	-	1	-	-	1	1
Maxillary molar	-	1	-	-	1	1
Molar fragments	-	-	-	7	7	1
Petrous temporal fragment	-	2	-	-	2	2
Radial carpal	1	-	-	-	1	1

## 5.6 Features and Artifact Distribution

There are two distinct features that have been identified in level 1/2 of the Red Tail site. Feature 1-1 is a hearth that measures approximately 44cm by 48cm in the southwest quadrant of unit 119N 107E. A number of pieces of FCR were found within the hearth. In an adjacent unit, 120N 107E, a second hearth feature 1-2, was discovered. This hearth is approximately 37cm by 48cm and is located in the southern quadrants of the unit. As indicated by Figure 5.6, there is a significant amount of debitage associated with both hearth features and both Besant projectile point bases are within close range. There are unburned faunal remains, including five tooth fragments, and catalogue data indicate that there are also a number of other small unburned,

burned, or calcined faunal fragments associated with these hearths. Because of their close proximity and the distribution of associated fragments of lithic and faunal material, it is likely that both hearths belong to a single activity area.

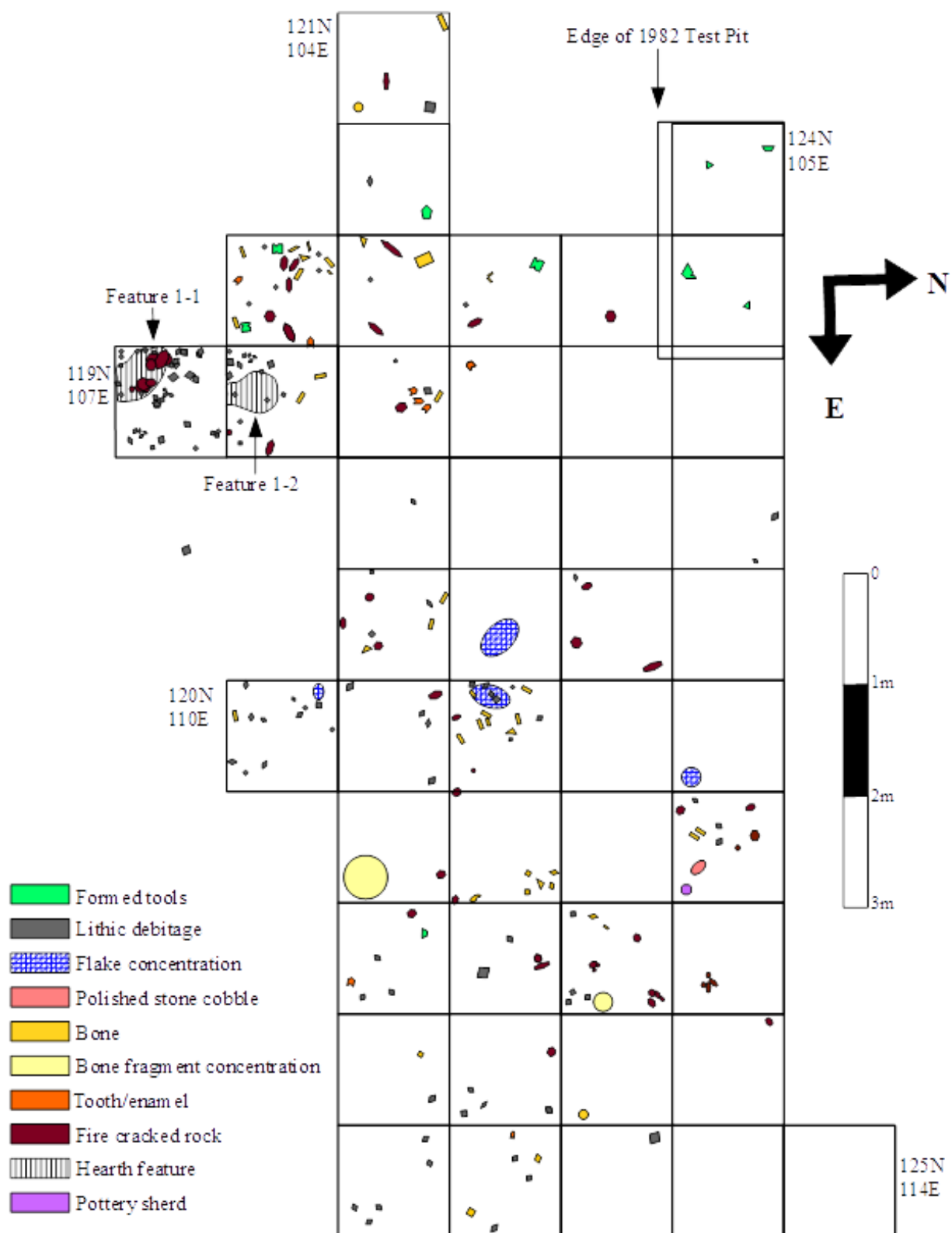
The remainder of the artifacts are dispersed sporadically throughout the rest of the site and there are no other discernible activity areas. However, the core fragments and small flake concentrations located in the middle and southern third of the site suggest that flintknapping took place in more than one area.

## **5.7 Interpretation**

Areas of level 1/2 of the Red Tail site were heavily utilized and the artifact and feature distribution indicates that multiple activities took place. The hearth features located in units 119N 107E and 120N 107E are likely part of a single activity area that also includes a heavy incidence of flintknapping. As the data in Table 5.1 suggest, the majority of the lithic material was locally sourced with the exception of the Knife River Flint fragments which come from central North Dakota and would have been obtained through long distance trade networks (Kay 1998).

It is likely that some late stage food processing, both preparation and consumption, took place here, as evidenced by the associated unburned, burned and calcined faunal remains. Of the identifiable faunal remains, *Bison bison* occurred most frequently and a minimum of two adults are present. However, the faunal assemblage is small and is not indicative of a kill site or heavy processing area. It is important to note that two levels combined as they are here indicate at least two occupations. Unfortunately, the evidence does not provide a more accurate indication of how many occupations may have taken place within these two levels or how long each may have been.

There are two distinct point styles present in level 1/2 of the Red Tail site; Avonlea and Besant. It is very likely that the Avonlea points belong in level 1 while the Besant points belong in level 2, as the Avonlea points were recovered from shallower depths than the Besant points. While the component mixing and compression of the stratigraphy makes it difficult to distinguish between the two levels, a bone sample was recovered from level 2, tested and returned a radiocarbon date of 1340 B.P, further supporting a late Middle Period to early Late Period occupation of the site.



**Figure 5.6:** Level 1/2 of the Red Tail site.

## **Chapter 6**

### **Cultural Levels 3 & 4**

#### **6.1 Introduction**

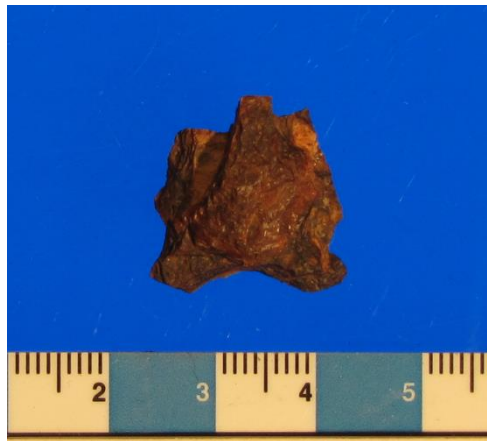
Cultural levels three and four are examined together in this chapter. As with Level 1/2, these levels are closely associated. They are intermixed throughout the entire site to the point that there is only a single unit where they are completely separate. Ramsay (1993) mentions that level four splits into two levels in some downslope areas of the excavation block, but examination of the profile drawings reveals that this happens infrequently and little to no distinction was made on the artifact cards or level correction forms when it did occur. As a result, it was not possible to make a clear separation. Ramsay assigns the same sediment characteristics for both levels and describes it as a loamy sand that is very fine and dark grey-brown in colour (Ramsay 1993:56). The minimum depth for this level is 10cm and the maximum depth is 45cm; the level itself is only 5 to 15cm thick.

#### **6.2 Lithic Assemblage**

##### **6.2.1 Projectile Points**

An incomplete point was recovered in unit 123N 114E. It is very thick and crudely made of silicified peat and is mostly intact but missing the proximal end (Figure 6.1). According to Johnson (1998:33) “natural silicified peat is fine-grained [but] it can be tough to chip...[It] typically separates along irregular, subparallel parting planes which may be so close and so irregular as to render the material nearly useless for the manufacture of chipped artifacts”. While it is quite obvious that this artifact is a projectile point and the crudeness of its manufacture, including fractures on the dorsal side and on one of the lateral edges, is likely due to some of the problems identified by Johnson. While its manufacture is crude, the point strongly resembles those from the Sandy Creek Complex. Sandy Creek has been identified at a number of

Saskatchewan archaeological sites including the Mortlach site, the Walter Felt site and the Sjøvold site and date to between 2,500 – 2,000 B.P. (Dyck 1983). A Sandy Creek point was also identified at the Meewasin Creek site at Wanuskewin (Frary 2009). These points have notches low on the lateral margins and are basally indented which creates the rounded appearance of the ears that are similar to those of the Oxbow Complex. As a result, there is some argument that Sandy Creek represents a transitional phase between Oxbow and Besant, despite the significant time span between the two complexes (Bubel et. al. 2012). Others have argued that Sandy Creek is directly associated with the Besant Complex and may represent an early expression of it (Dyck and Morlan 1995; Kevinsen 2013).



**Figure 6.1:** Incomplete point.

### **6.2.2 Other Flaked Tools**

A preform was recovered from unit 121N 108E. It is made of Swan River Chert and is quite small. It is likely that this would eventually have become a projectile point (Figure 6.2). A second preform, slightly larger but also made of Swan River Chert, was recovered only a few units away in unit 123N 109E (Figure 6.2). Because of its size, this second preform was also likely to have become a projectile point. A Swan River Chert biface was found in unit 120N 110E (Figure 6.3). The biface is broken and quite crudely made. A scraper, also made of Swan River Chert, was found in unit 123N 114E.





**Figure 6.2:** Preforms.



**Figure 6.3:** Biface.

### **6.2.3 Cores and Core Fragments**

In total, one core and six core fragments were recovered from this level. All were found along the southern edge of the excavation between units 121N 108E and 121N 114E. The core and three of the core fragments are made of Swan River Chert and the remaining core fragments are composed of Gronlid Siltstone, chert, and quartzite (Figure 6.4).



**Figure 6.4:** Swan River Chert core fragment recovered from unit 121N 110E.

#### 6.2.4 Debitage

In total, 931 pieces of debitage were collected from this level (Table 6.1). The most common material is Swan River Chert at 52.74%, followed by quartzite at 16.54%, then chert at 10.42%. The remaining 20.30% of the debitage is composed of 11 other lithic material types. With the exception of one primary flake of indeterminate material and three items of Knife River Flint, all are considered to be local material. Shatter is the dominant form of debitage for this level at 94.09%. Tertiary flakes follow at 3.54% and primary and secondary flakes make up of 2.36% of the debitage.

**Table 6.1:** Lithic Debitage for Level 3/4.

Material Type	Primary Flakes	Secondary Flakes	Tertiary Flakes	Shatter	Total	Percent
Agate	-	1	-	6	7	0.75%
Basalt	1	1	-	7	9	0.97%
Chalcedony	-	-	3	13	16	1.72%
Chert	-	1	2	94	97	10.42%
Chert Precipitated in Limestone	-	-	-	29	29	3.11%
Granite	-	-	-	2	2	0.21%
Gronlid Siltstone	-	3	6	26	35	3.76%
Knife River Flint	-	-	1	5	6	0.64%

Quartz	-	-	1	57	58	6.23%
Quartzite	4	2	4	144	154	16.54%
Silicified Peat	-	-	-	16	16	1.72%
Silicified Wood	-	-	-	10	10	1.07%
Swan River Chert	4 (H/T=1)	4 (H/T=1)	16 (H/T=2)	467 (H/T=56)	491 (H/T=60)	52.74% -
Indeterminate	1	-	-	-	1	0.11%
Total	10	12	33	876	931	100.00%
Percent	1.07%	1.29%	3.54%	94.09%	100.00%	

### 6.2.5 Unformed Tools

Three hammerstones and a cobble tool were recovered from this level. Two of the hammerstones are made of granite. One is significantly larger weighing 959.0g in comparison to the second which weighs 266.1g. Both are smooth and dark pink in colour with very obvious battering. The third hammerstone is basalt and weighs 284.6g (Figure 6.5). It is semi-oval in shape and battering is present on each end with a spall broken off of one side. The cobble tool is made of coarse, dark, banded granite, weighs 482.2g and has a very small surface area of battering present. It was likely used as an expedient hammerstone. One of the hammerstones and the cobble tool were found in unit 122N 110E, and the second hammerstone was recovered in an adjacent unit, 122N 109E, while the third hammerstone was found along the southern margin of the excavation in unit 121N 112E.



**Figure 6.5:** Basalt hammerstone, Level 3/4.

Four polished granite cobbles were found in this level. One of these cobbles was recovered from unit 122N 110E and displays a burned surface area (Figure 6.6). As with the polished cobble found in level 1/2, these may have been used for burnishing. All were found in the eastern third of the excavation. Similar cobble tools are present at the Wolf Willow site (Ernest Walker, personal communication 2015).



**Figure 6.6:** Burned cobble tool, Level 3/4

### 6.2.6 Fire-Cracked Rock

There is a fairly high incidence of fire-cracked rock in this level, 69.04% of which comes from a rock feature in units 124N 114E and 125N 114E (Table 6.2). In total, 688 pieces were found with granite being the dominant material type making up 96.35%. Basalt, quartzite and one piece of indeterminate material make up the remaining 3.64%. The total combined mass of all of the fire-cracked rock is quite significant weighing in at 64.3 kg. A burned piece of granite was also identified in unit 121N 114E, weighing in at 213.2 g (Figure 6.7).

**Table 6.2:** Fire Cracked Rock for Level 3/4.

Material Type	Number of Pieces	Mass (g)	Percent by Count	Percent by Mass
Basalt	7	529.9	1.01%	0.82%
Granite	654	61954.47	95.05%	96.35%
Quartzite	26	1795.3	3.77%	2.79%
Unidentifiable	1	24.0	0.14%	0.03%
<b>Total</b>	<b>688</b>	<b>64303.67</b>	<b>100.00%</b>	<b>100.00%</b>



**Figure 6.7:** Burned granite rock.

### **6.3 Organic Material**

Only 22 pieces of charcoal were recovered from this level, of which 13 pieces were taken from unit 123N 106E. Nine pieces were recovered from unit 122N 110E and are associated with a dark stain in the northwest quadrant of that unit. Combined, all 22 pieces weigh only 1 g. There is a significant charcoal concentration in a hearth feature in unit 122N 114E, but a sample was not found among the artifacts collected.

### **6.4 Faunal Assemblage**

#### **6.4.1 Taxon and Element Identification**

This level contained 1086 fragments of bone, teeth and tooth enamel, both identifiable and unidentifiable, with a total combined mass of 782.9g (Table 6.3). The majority of the bone recovered, 81.12%, was unburned, while calcined bone and burned bone occurred much less frequently at 7.46% and 4.97% respectively. Only 6.45% of the faunal assemblage recovered for this level was identified as teeth or tooth enamel and both are represented together in Table 6.3.

The majority of the faunal remains in this level were only attributable to the taxon of mammal leaving 2.39% of the remains to be identified based on species, genus or broader

designations such as class and size class (Table 6.4). Of the identifiable remains, 69.23% were classified as *Bison bison* and the minimum number of individuals identified for this level is one (Table 6.5).

The remainder of the identifiable specimens include one distal phalange belonging to the genus *Canis* and two large bone fragments identified as belonging to large or very large mammals. An unidentified element belonging to the class of Aves, and a mandible fragment with three molars intact belonging to a Richardson's ground squirrel (*Spermophilus richardsonii*), are believed to be intrusive to the site. Two shell fragments were also recovered, but they are too small to be identified.

**Table 6.3:** Faunal Counts Table for Level 3/4.

Condition	Count	Mass (g)	Percent
Unburned bone	881	695.4	81.12%
Burned bone	54	34	4.97%
Calcined bone	81	12.4	7.46%
Enamel	70	41.1	6.45%
Total	1086	782.9	100.00%

**Table 6.4:** Faunal Taxa for Level 3/4.

Taxon	NISP	Mass (g)	MNI
<i>Bison bison</i>	18	695.4	1
<i>Canis sp.</i>	1	0.3	1
Class Aves	1	0.3	1
Invertebrate	2	0.5	N/A
Large or Very Large Mammal	2	18.0	N/A
<i>Uroditellus richardsonii</i>	2	0.5g	1

**Table 6.5:** *Bison bison* Quantification by Element for Level 3/4.

Element	Left	Right	Axial	Indeterminate	Total Number	MNI
Distal metapodial fragment	-	-	-	1	1	1
First maxillary premolar	-	-	-	1	1	1
First phalange	-	-	-	1	1	1
Molar fragments	-	-	-	7	7	1
Bone fragments	-	-	-	6	6	1
Longbone fragments	-	-	-	1	1	1
Molar crown fragment	-	-	-	1	1	1
Molar fragment	-	-	-	1	1	1
Petrous temporal fragment	-	-	-	1	1	1

Unciform	1	-	-	-	1	1
Vertebra fragment	-	-	1	-	1	1

## 6.5 Features and Artifact Distribution

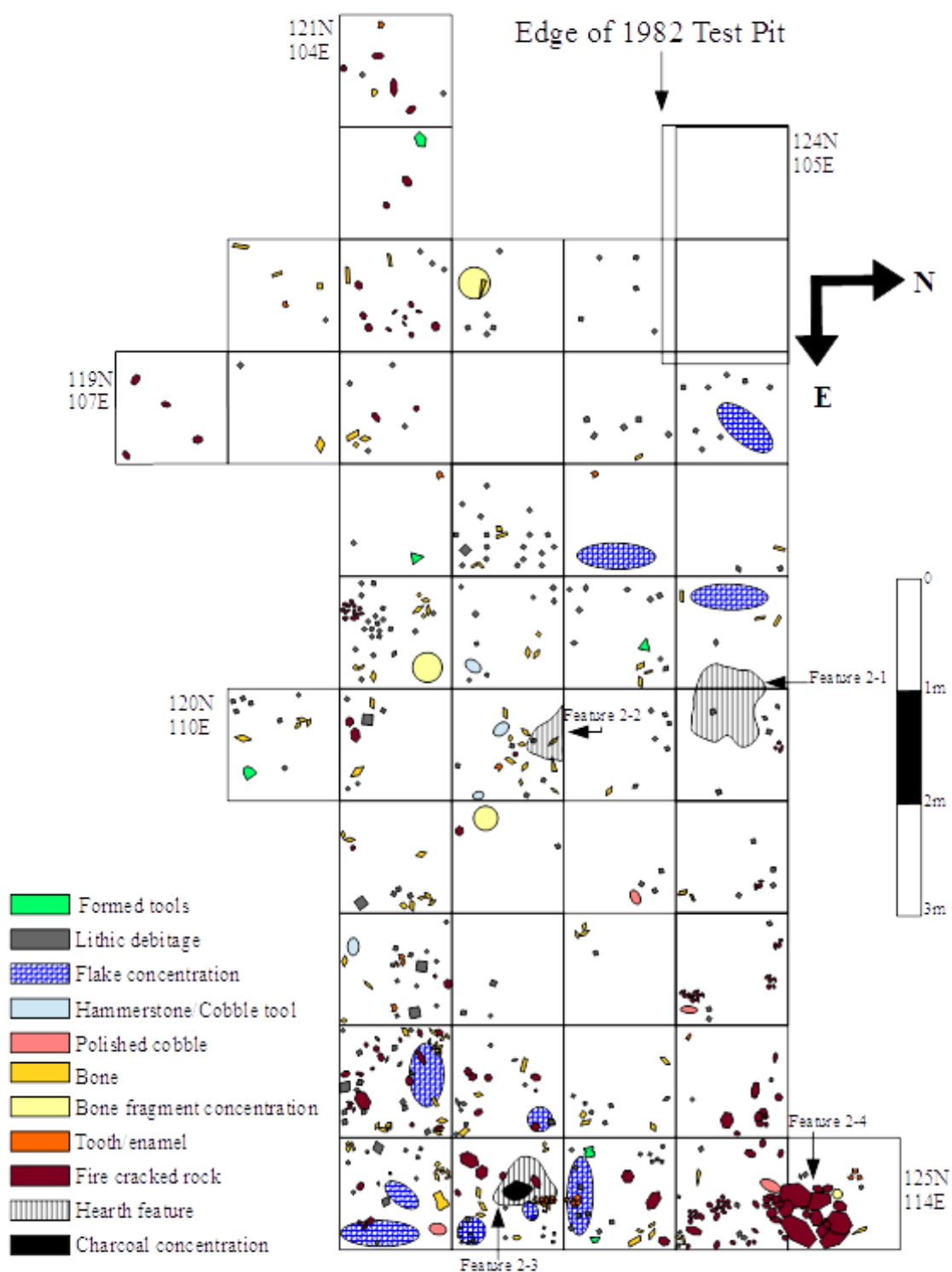
There are four identifiable features in this level (Figure 6.8). Feature 2-1, located in units 124N 109E and 124N 110E, is a hearth that measures approximately 63 cm by 74 cm. Nearby, in unit 122N 110E, is a second hearth, feature 2-2, that measures 51 cm by 30 cm. Surrounding both hearths is a moderate scatter of lithic debitage with three flake concentrations in close proximity. Other lithic artifacts within close range include two of the hammerstones, the cobble tool and one of the core fragments, as well as the two flaked preforms and the biface. There are no significant burned or calcined faunal remains associated with these features though there is a low presence of unburned remains.

Along the eastern edge of the site are Features 2-3 and 2-4. Feature 2-3 is another hearth in unit 122N 114E, measuring approximately 57 cm by 45 cm with a heavy charcoal concentration near the center. Feature 2-4 is a rock pile with a very high concentration of fire-cracked rocks and cobbles. It occurs across units 124N 114E and 125N 114E and measures approximately 80 cm by 61 cm. As mentioned, this feature makes up over 69% of the fire-cracked rock found in this level. It is possible that the fire-cracked rock in this feature is the refuse from activity that took place nearby. This eastern third of the site is quite prolific with artifacts and, as demonstrated by Figure 6.8, the distribution of lithic material and faunal remains between these two features, indicates a high-activity area.

## 6.6 Interpretation

Level 3/4 of the Red Tail site could be considered a mixed-use level, similar to Level 1/2. It is likely that feature 2-1 and feature 2-2, located in the center of the excavation, are associated because of their close proximity to one another as well as the surrounding artifact distribution in





**Figure 6.8:** Level 3/4 of the Red Tail site



that part of the site. The presence of three hammerstones, one core, one core fragment, and three flake concentrations, as well as other scattered debitage in the area, indicate that a significant amount of flintknapping took place.

Feature 2-3 and feature 2-4 are surrounded by a multitude of scattered lithic and faunal remains. The associated lithic artifacts include five core fragments, two hammerstones, three of the polished cobbles, a scraper and the only projectile point found in this level. Ninety-eight percent of the heat-treated Swan River Chert found in this level was located in the eastern half of the site and could be associated with any, or all, of the hearth features. As indicated by Table 6.1, 99.24% of the lithic material used for flintknapping is local.

Of the faunal remains found in this level, 48.89% of them, including teeth, enamel and unburned, burned and calcined bone, are associated with these two features. This also indicates that late stage food processing occurred here. It is likely that the fire cracked rock is related to the hearth features and associated food processing activities. It is important to note that two levels combined as they are here indicate at least two occupations. As with levels 1 and 2, the evidence does not provide more accurate indication of how many occupations or how long each may have been. It could be argued that the northern periphery of the area containing features 2-1 and 2-2 belong to one occupation while the southeast corner of the site containing features 2-3 and 2-4 may belong to another.

The Sandy Creek point in this level dates it to the late Middle Period at a time contemporaneous with or previous to Besant, as indicated by Kevinsen (68:2013) who argues that the morphology of the Sandy Creek point most closely resembles early Besant points. The date is also supported by the fact that the Besant point bases were found in the level above 3/4 and McKean period artifacts were found a few levels below. This is only the second Sandy Creek point found at a site in Wanuskewin Heritage Park (Frary 2009).

## Chapter 7

### Cultural Level 5

#### 7.1 Introduction

Level 5 is quite sparse in comparison to those above it. It is also inconsistent throughout the site in that it is completely absent from the archaeological record in some units and, in others, it may only be present in one or two quadrants. In total, it is absent from approximately 22% of the excavated area. The level is, on average, between 2 - 5 cm thick, but ranges from 18 – 53 cm below surface throughout the site. Ramsay (1993) describes the sediment as loamy sand that is brownish grey in colour.

#### 7.2 Lithic Assemblage

##### 7.2.1 Flaked Tools

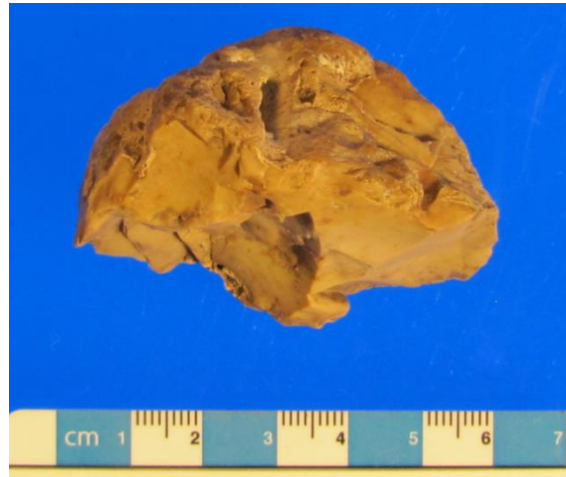
A small end-scraper made of chert was recovered from the southeast quadrant of unit 122N 113E (Figure 7.1). This is the only tool found in this level.



**Figure 7.1:** Banded chert scraper.

### 7.2.2 Core Fragments

Only two core fragments were found in this level. The first was found in unit 119N 107E, the southern-most unit of the excavation and weighs 17.1g. The second was found in unit 121N 111E and weighs 70.6g (Figure 7.2). Both core fragments are made of chert.



**Figure 7.2:** Core fragment from unit 121N 111E.

### 7.2.3 Debitage

Only 158 pieces of debitage were collected from this level (Table 7.1). Swan River Chert dominates at 58.52%, followed by quartzite at 17.41%, then quartz at 9.26%. The remaining 14.81% of the debitage is composed of eight other lithic material types. All are local material types. Shatter is the dominant form of debitage for this level at 94.82%. Tertiary flakes follow at 4.44% and primary and secondary flakes make up of 0.74% of the debitage.

**Table 7.1:** Lithic Debitage for Level 5.

Material Type	Primary Flakes	Secondary Flakes	Tertiary Flakes	Shatter	Total	Percent
Basalt	-	-	-	3	3	1.11%
Chalcedony	-	-	-	1	1	0.37%
Chert	-	-	1	19	20	7.41%
Chert Precipitated in Limestone	-	-	-	4	4	1.48%
Fused Shale	-	-	-	1	1	0.37%
Quartz	-	-	1	24	25	9.26%
Quartzite	1	-	1	45	47	17.41%

Silicified Peat	-	-	-	3	3	1.11%
Silicified Wood	-	-	-	7	7	2.59%
Siltstone	-	-	-	1	1	0.37%
Swan River Chert	-	1	9	148 (H/T: 1)	158 (H/T: 1)	58.52%
Total	1	1	12	256	270	100.00%
Percent	0.37%	0.37%	4.44%	94.82%	%	

## 7.2.4 Fire-Cracked Rock

In total, 46 pieces of fire-cracked rock were found with granite being the dominant material type making up 98.24% (Table 7.2). One piece of basalt and one piece of quartzite make up the remaining 1.76%. The total combined mass of all of the fire-cracked rock is 3446.4g. A single burned granite cobble was also recovered (Figure 7.3).

**Table 7.2:** Fire-cracked Rock for Level 5.

Material Type	Number of Pieces	Mass (g)	Percent by Count	Percent by Mass
Basalt	1	53	2.17%	1.54%
Granite	44	3385.9	95.66%	98.24%
Quartzite	1	7.5	2.17%	0.22%
Total	46	3446.4	100.00%	100.00%



**Figure 7.3:** Burned granite cobble from unit 119N 107E.

### 7.3 Organic Material

Twenty pieces of charcoal were collected from this level. Eleven pieces came from unit 122N 110E and nine pieces were collected from unit 121N 112E. Combined, the total mass is 0.6 g.

### 7.4 Faunal Assemblage

#### 7.4.1 Taxon and Element Identification

This level contained 616 fragments of bone, teeth and tooth enamel, both identifiable and unidentifiable, with a total combined mass of 423.2g (Table 7.3). The majority of the bone recovered (81.98%) was unburned and burned bone makes up 4.38%. No calcined bone was found in this level. Of the faunal assemblage recovered from this level, 13.64% was identified as teeth or tooth enamel.

**Table 7.3:** Faunal Counts Table for Level 5.

Condition	Count	Mass (g)	Percent
Unburned bone	505	383.9	81.98%
Burned bone	27	12.2	4.38%
Enamel	84	27.1	13.64%
Total	616	423.2	100.00%

Of the faunal remains, only 6.98% could be identified based on species, genus, family or size class (Table 7.4). Ten *Bison bison* elements comprised 23.25% of the remains. Five of the elements are cranial fragments from an immature individual. The other five are composed of two left incisor fragments, two right, heavily worn incisors and one associated left, heavily worn incisor from an adult specimen. Based on this evidence, the minimum number of individuals identified for this level is two (Table 7.5).

**Table 7.4:** Faunal Taxa for Level 5.

Taxon	NISP	Mass (g)	MNI
<i>Bison bison</i>	10	39.9	2
<i>Canis sp.</i>	9	12.1	1
<i>Cricetidae</i>	23	0.3	1
Large or Very Large Mammal	1	22.4	N/A

**Table 7.5:** *Bison bison* Quantification by Element for Level 5.

Element	Left	Right	Axial	Indeterminate	Total Number	MNI
Cranial fragments (immature)	-	-	4	-	5	1
Incisors	1	2	-	-	3	1
Incisor fragments	2	-	-	-	1	1

Nine of the identifiable faunal remains belong to the genus *Canis* (Table 7.6). As they were all recovered in association with one another, it is believed that they represent one individual. All of the faunal remains belonging to *Canis* sp. were recovered from the southwestern corner of the excavation, with 77% recovered from unit 122N 106E. The first phalange was found in two pieces that fit together and was obviously cut rather than broken. Interestingly, this is the only piece of bone from this individual that is burned.

**Table 7.6:** *Canis* sp. Quantification by Element for Level 5.

Element	Side	Total Number
1 <sup>st</sup> phalange	Indeterminate	1
2 <sup>nd</sup> phalange	Indeterminate	1
3 <sup>rd</sup> metatarsal	Left	1
3 <sup>rd</sup> phalange	Indeterminate	1
3 <sup>rd</sup> tarsal	Indeterminate	1
Accessory carpal	Left	1
Distal metapodial fragment	Indeterminate	1
Sesamoid	Indeterminate	2

The remaining identifiable specimens from Level 5 include a partial skeleton assigned to the family of *Cricetidae*. It is believed to be intrusive to the site. One longbone fragment from a very large mammal was also recovered. The unidentifiable specimens uncovered from this level can only be attributed to the taxon of mammal.

## 7.5 Artifact Distribution and Features

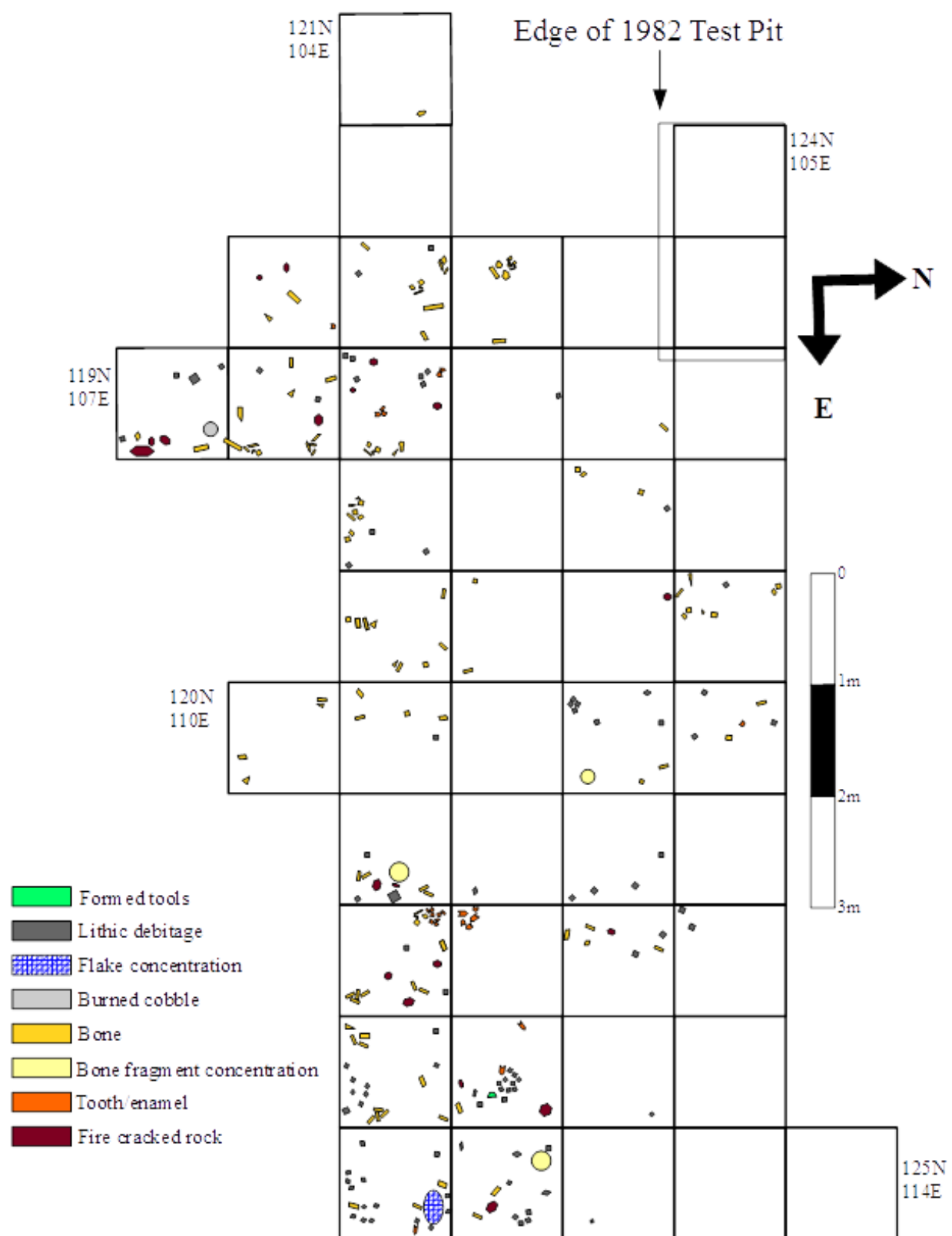
There were no features identified for this level. Lithic and faunal material is spread throughout the site, but the majority of the artifacts were uncovered in the southern half of the

site. A small lithic concentration is present in the southeastern corner of the excavation. This is demonstrated by Figure 7.4.

## **7.6 Interpretation**

Because the majority of artifacts for this level were discovered in the southern half of the site, it is possible that the excavations only revealed the peripheral boundary of a living floor. If excavations had continued south, a more heavily utilized area may have been uncovered. There is also the possibility that this was a very temporary campsite or resting area; however, it could still be argued that only a portion of the occupied space was revealed through excavations.

Without further evidentiary support, it is difficult to make further interpretation.



**Figure 7.4:** Level 5 of the Red Tail site.



## Chapter 8

### Cultural Level 6

#### 8.1 Introduction

Level 6 is another sparse level. It is discontinuous in areas throughout the site and absent from approximately 11% of the excavated area. Ramsay (1993) describes the sediment as loamy sand that is brownish grey in colour. The minimum depth for this level is 19 cm below surface, while the maximum depth is 69 cm below surface. The level itself is only between 3 and 7 cm thick.

#### 8.2 Lithic Assemblage

##### 8.2.1 Debitage

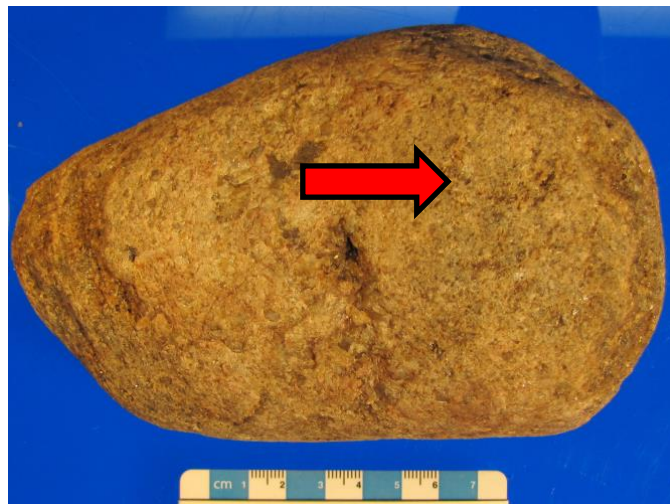
Debitage in this level was scarce as only 59 pieces were recovered (Table 8.1). Of these, 57 items are shatter, one item is a primary flake and one item is a secondary flake. There were no tertiary flakes recovered from this level. The dominant material is Swan River Chert at 38.98%, followed by chert and quartz at 20.34% and 16.95% respectively.

**Table 8.1:** Lithic Debitage Level 6.

Material Type	Primary Flakes	Secondary Flakes	Tertiary Flakes	Shatter	Total	Percent
Agate	-	-	-	1	1	1.69%
Chert	-	-	-	12	12	20.34%
Chert Precipitated in Limestone	-	-	-	2	2	3.39%
Gronlid Siltstone	1	-	-	1	2	3.39%
Quartz	-	-	-	10	10	16.95%
Quartzite	-	-	-	7	7	11.86%
Silicified Peat	-	-	-	1	1	1.69%
Silicified Wood	-	-	-	1	1	1.69%
Swan River Chert	-	1	-	22 (H/T=1)	23 (H/T=1)	38.98%
Total	1	1	-	57	59	%
Percent	1.69%	1.69%	0.00%	96.62%	%	

### 8.2.2 Unformed Tools

One granite hammerstone was recovered from unit 121N 105E in the west end of the site (Figure 8.1). It weighs 1635.4 g and, because of the minimal presence of battering, was likely an expedient tool. An anvil stone was found in the northeast area of the site in unit 123N 112E (Figure 8.2). It is made of dark, smooth greywacke with evidence of a few battering marks present on the surface. It weighs 4706.9 g. These are the only tools recovered from this level.



**Figure 8.1:** Expedient hammerstone. Arrow indicates area where battering is present.



**Figure 8.2:** Anvil stone. Arrow indicates area where battering is present.

### 8.2.3 Fire-cracked Rock

Only 59 pieces of fire-cracked rock were found in this level and 100% is granite. The majority of it, 88.13%, comes from the eastern third of the site (Table 8.2).

**Table 8.2:** Fire Cracked Rock for Level 6.

Material Type	Number of Pieces	Mass (g)	Percent by Count	Percent by Mass
Granite	59	880.2	100.00%	100.00%

### 8.3 Organic Remains

Charcoal was scattered throughout the level and 107 pieces in total were collected from units 123N 106E, 120N 107E, 123N 109E and 123N 114E. Combined, they weigh 0.7g.

### 8.4 Faunal Assemblage

#### 8.4.1 Taxon and Element Identification

This level contained 526 fragments of bone as well as teeth and tooth enamel, both identifiable, and unidentifiable with a total combined mass of 1252.8 g (Table 8.3). The majority of the bone recovered (74.72%) was unburned. Burned bone and calcined bone occurred much less frequently at 17.30% and 0.76% respectively. Only 7.22% of the faunal assemblage recovered for this level was identified as teeth or tooth enamel and both are represented together in Table 3.

**Table 8.3:** Faunal Counts Table for Level 6.

Condition	Count	Mass (g)	Percent
Unburned bone	393	1217	74.72%
Burned bone	91	26.5	17.30%
Calcined bone	4	1.0	0.76%
Enamel	38	9.3	7.22%
Total	526	1252.8	100.00%

The unidentifiable remains can only be attributed to the taxon of mammal. The identifiable specimens, totaling 3.42% of the faunal assemblage, are all attributable to *Bison*

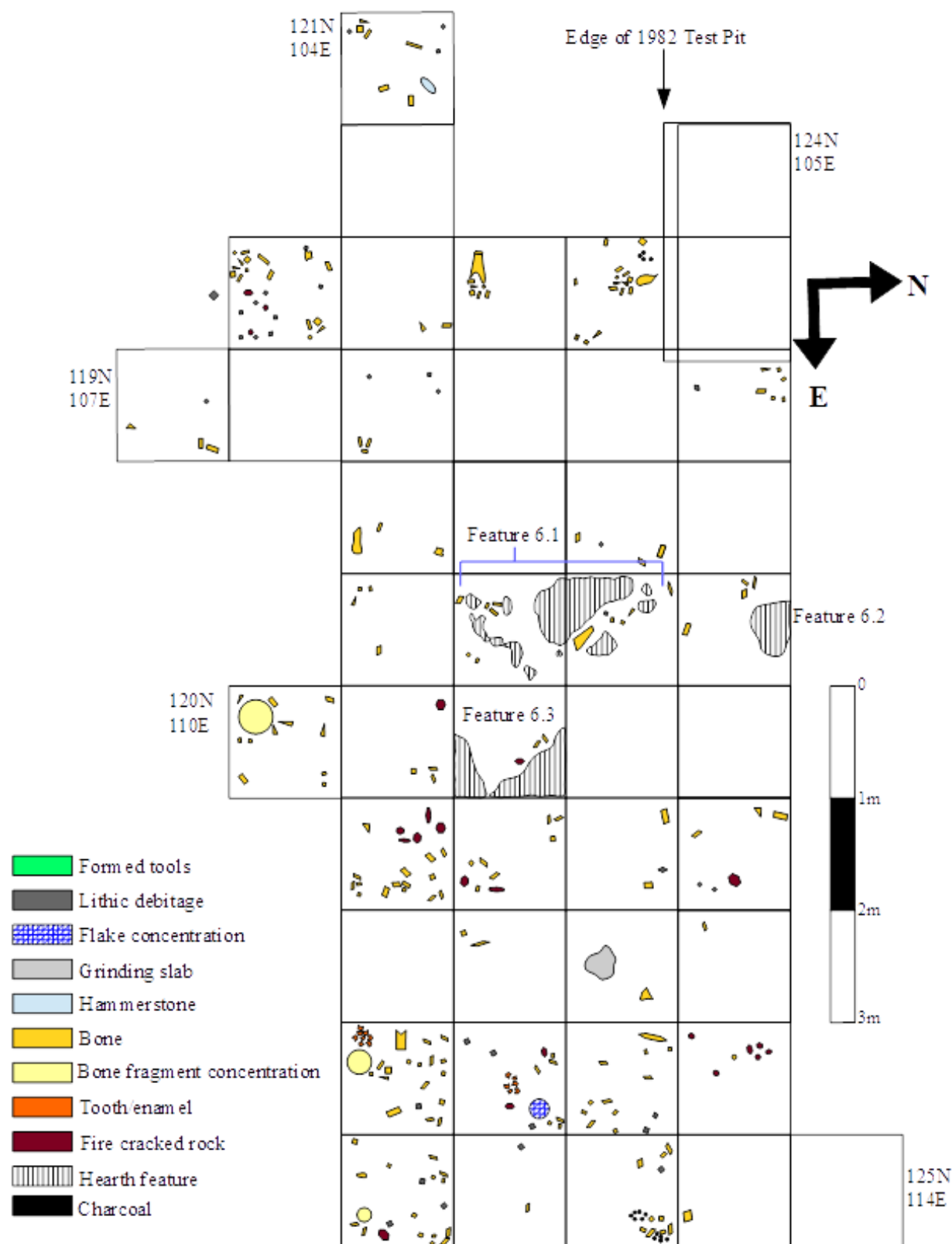
*bison* (Table 8.4). The minimum number of individuals for this level is one.

**Table 8.4:** *Bison bison* Quantification by Element for Level 6.

Element	Side	Total Number	MNI
1 <sup>st</sup> phalange	Indeterminate	2	1
2 <sup>nd</sup> phalange	Indeterminate	1	1
5 <sup>th</sup> tarsal	Indeterminate	1	1
Acromion spine fragment	Right	1	1
Distal humerus fragment	Indeterminate	1	1
Fused central & 4 <sup>th</sup> tarsal	Right	1	1
Fused central & 4 <sup>th</sup> tarsal	Left	1	1
Humerus fragment	Indeterminate	1	1
Ischium	Left	1	1
Longbone fragment	Indeterminate	3	1
Patella	Right	2	1
Petrous Temporal	Left	1	1
Scapula fragment	Right	1	1
Ulna	Right	1	1

## 8.5 Artifact and Feature Distribution

While level 6 is not very prolific in artifacts, it is worth noting that there are eight times as many faunal remains than there are lithic remains. The only identifiable elements belong to *B. bison* and they are scattered throughout the site. The centre of the site has a number of hearth features (Figure 8.2). Feature 6-1 is comprised of a large hearth measuring approximately 80 cm by 55 cm and a number of smaller charcoal stains along its eastern edge. Feature 6-2 is another hearth measuring approximately 25 cm by 30cm. Two hearth stains in the eastern corners of unit 122N 110E make up feature 6-3. These features are likely associated due to their close proximity to one another. It is interesting to note that with 3 hearths present, there is very little fire-cracked rock. Burned and calcined faunal remains are spread over the site and, according to catalogue data, only a small number of those are in close proximity to the hearth features.



**Figure 8.3:** Level 6 of the Red Tail site.

There is a heavier concentration of faunal remains in the southeast area of the excavation, but due to the nature of the stratigraphy, there is likely some level mixing that occurred throughout the site. This is indicated by a heavier concentration of artifacts in this same area of the site in level 5, as well as complications separating artifacts between levels 5 and 6.

## **8.6 Interpretation**

It is possible that this space was used as a small food processing area. There is a hammerstone in the western end of the site where some of the identifiable bison elements were recovered and an anvil stone in the eastern third of the site in fairly close proximity to the largest proportion of faunal remains. The central area hearth features, along with the burned faunal remains, are also indicative of late-stage food processing activities. A very limited presence of lithic materials offers no indication of significant flintknapping activities. Unfortunately, due to the limited number of artifacts and features, it is not possible to make further interpretations about this level. It should be noted, however, that because of possible component mixing, there may be a chance that the artifacts presented for this level represent more than one occupation.

## Chapter 9

### Cultural Level 7

#### 9.1 Introduction

Level 7 has a minimal number of artifacts which makes it difficult to interpret. The minimum depth for the level is 19 cm below surface and the maximum depth is 69 cm. It is fairly thin, ranging from 3 cm to 5 cm thick. As with the levels above it, it thins out and becomes closer to the surface in the northeastern portion of the site. Ramsay (1993) describes the sediment for this level as fine, sandy loam that is very dark grey in colour.

#### 9.2 Lithic Assemblage

##### 9.2.1 Unformed Tools

A hammerstone was found in unit 120N 107E. It is made of pink granite and weighs 457.1g. There is evidence of heavy battering in multiple areas on the stone (Figure 9.1).



**Figure 9.1:** Visible battering on two sides of the hammerstone.

### 9.2.2 Debitage

There was very littledebitage recovered from this level (Table 9.1). In total, only 17 pieces of shatter were recovered, with the dominant material type being chert at 41.18%.

**Table 9.1:** Lithic Debitage for Level 7.

Material Type	Primary Flakes	Secondary Flakes	Tertiary Flakes	Shatter	Total	Percent
Chert	-	-	-	7	7	41.18%
Quartz	-	-	-	3	3	17.65%
Quartzite	-	-	-	1	1	5.88%
Siltstone	-	-	-	1	1	5.88%
Swan River Chert	-	-	-	5	5	29.41%
Total	-	-	-	17	17	100.00%
Percent	-	-	-	100%	100%	

### 9.2.3 Fire-Cracked Rock

Fire-cracked rock was also scarce in this level. Fourteen pieces were found, 13 of which are made of granite (Table 9.2). The final piece is quartzite.

**Table 9.2:** Fire Cracked Rock for Level 7.

Material Type	Number of Pieces	Mass (g)	Percent by Count	Percent by Mass
Granite	13	937.3	92.86%	95.23%
Quartzite	1	47.0	7.14%	4.77%
Total	14	984.4	100.00%	100.00%

## 9.3 Organic

A number of charcoal samples were collected from this level. In total, 201 pieces were recovered with a combined weight of 2.9g. Over 43% of the charcoal comes from unit 123N 108E but, while a note was made in the level record form that hearths were present, no planview drawing was available. An additional 24% of the charcoal was collected from the hearth feature in unit 122N 113E.



## 9.4 Faunal Assemblage

### 9.4.1 Taxon and Element Identification

This level contained 396 fragments of bone and teeth and tooth enamel, both identifiable and unidentifiable, with a total combined mass of 873.5g (Table 9.3). The majority of the bone recovered, 80.81%, was unburned. Burned bone occurred much less frequently at 3.54%. There was no calcined bone recovered from this level. Of the faunal assemblage recovered for this level, 15.65% was identified as unburned teeth or tooth enamel and both are represented together in Table 3.

**Table 9.3:** Faunal Counts Table for Level 7.

Condition	Count	Mass (g)	Percent
Unburned bone	320	798.3	80.81%
Burned bone	14	42.1	3.54%
Enamel	62	33.1	15.65%
Total	396	873.5	100.00%

The unidentifiable remains for this level can only be attributed to the taxon of mammal. The identifiable *Bison bison* specimens total 2.27% of the faunal assemblage and a lumbar vertebra, identified as belonging to a member of the order Rodentia, is believed to be intrusive (Table 9.4). Based on the identifiable elements, the minimum number of individuals for *Bison bison* is one (Table 9.5).

**Table 9.4:** Faunal Taxa for Level 7.

Taxon	NISP	Mass (g)	MNI
<i>Bison bison</i>	9	571.5	1
Order Rodentia	1	0.1	1

**Table 9.5:** *Bison bison* Quantification by Element for Level 7.

Element	Side	Total Number	MNI
1 <sup>st</sup> mandibular premolar	Indeterminate	1	1
Calcaneous	Right	1	1
Distal humerus fragment	Indeterminate	1	1
Longbone fragment	Indeterminate	1	1
Lumbar vertebra fragment	Axial	1	1
Mandibular molar (Unerupted)	Left	1	1

<b>Maxillary molar</b> (Newly erupted)	Right	1	1
<b>Metacarpal</b>	Right	1	1
<b>Molar fragment</b> (Newly erupted)	Indeterminate	1	1
<b>Spinous process</b>	Axial	1	1

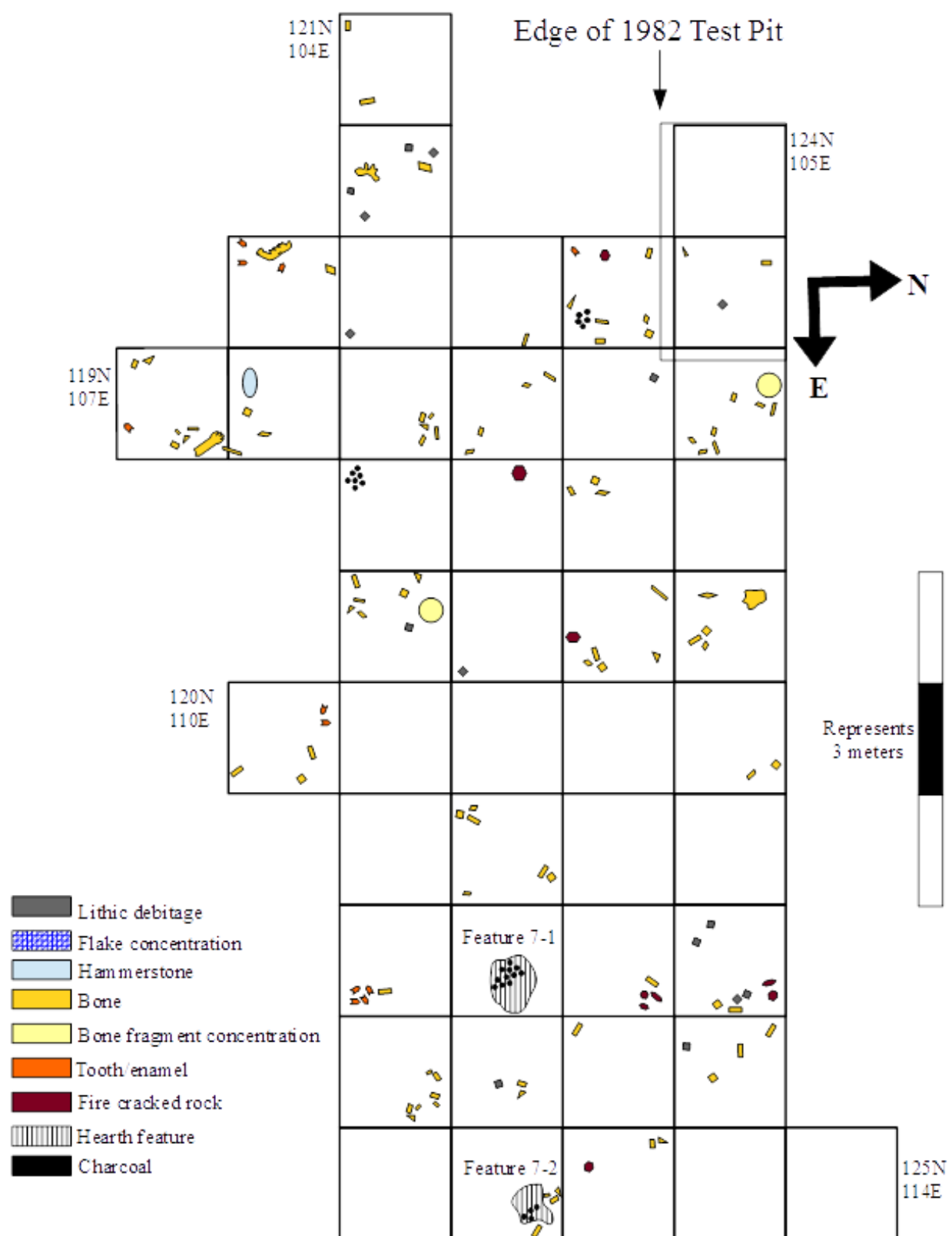
## 9.5 Artifact and Feature Distribution

The artifact distribution for this level is quite sporadic (Figure 9.2). There are very few lithic remains and there are no concentrations of lithic artifacts to indicate that a significant amount of flintknapping occurred here. Of the identifiable bison remains, 60% of them were found in the southwest corner of the excavation. The remainder are scattered through the central and southeast parts of the site. As a result of this distribution, it is believed that component mixing may have occurred and the possibility exists that the bison elements recovered from this level belong to the same individual as in level 6. This is further supported by a lack of repeating elements. However, it is also possible that recovery of the artifacts in this area of the excavation may have been inconsistent.

Two hearth features are present in the eastern third of the site. Feature 7-1 is located in unit 122N 112E and Feature 7-2 is located in unit 122N 114E. There is very little fire-cracked rock present in this level but a few pieces were found near each hearth feature. The burned bone present in this level is scattered throughout the site but none was found in direct association with either hearth feature.

## 9.6 Interpretation

It is possible that some late stage food processing was happening in this level as indicated by the presence of bone fragments and the two hearth features. The artifacts and features that are present may indicate a temporary campsite but it is also possible that a heavier activity area may be located outside of the excavation zone. Otherwise, a significant lack of artifacts makes it very difficult to speculate any further as to the use of this area in this level.



**Figure 9.2:** Level 7 of the Red Tail Site.

## **Chapter 10**

### **Re-Examination of Cultural Level 8 and Overview of the Red Tail Site**

#### **10.1 Introduction**

Level 8 was previously studied by Ramsay in his 1993 thesis. Here, the material from that level is revisited to re-examine the house pit feature discovered in this level. This house pit is the only one that has been found in the Northern Plains of Canada (Ernest Walker, Personal Communication 2015). Ramsay identified two sublayers for this level, 8a and 8b, but working with the data in a secondary capacity it was not possible to discern the separation. Furthermore, Ramsay comments that there is the possibility of component mixing between the two. Therefore, 8a and 8b are examined together for this thesis. The depths for this level range from 29 cm – 100 cm below datum, but the level is between 10 cm – 17 cm thick. Two radiocarbon dates were obtained for this level, offering dates of 3300 B.P. and 3440 B.P., placing it within the time range for a late McKean occupation.

#### **10.2 Lithic Assemblage**

##### **10.2.1 Core Fragments**

Two core fragments were recovered from level 8. One was found near the centre of the site in unit 121N 109E and weighs 6.3 g. The second was found in the northeast corner in unit 124N 114E and weighs 13.6 g. Both are made of chert.

##### **10.2.2 Debitage**

Debitage in this level was minimal and flakes were not represented (Table 10.1). Over half of the 25 pieces of shatter found are made of Swan River Chert. The remaining 48% of thedebitage is made up of five different other local materials.

**Table 10.1:** Lithic Debitage for Level 8.

Material Type	Primary Flakes	Secondary Flakes	Tertiary Flakes	Shatter	Total	Percent
Chalcedony	-	-	-	1	1	4.0%
Chert	-	-	-	2	2	8.0%
Quartz	-	-	-	2	2	8.0%
Quartzite	-	-	-	5	5	20.0%
Silicified Wood	-	-	-	2	2	8.0%
Swan River Chert	-	-	-	13 (H/T: 0)	13 (H/T: 0)	52.0%
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>25</b>	<b>25</b>	<b>100.00%</b>
<b>Percent</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>100.00%</b>	<b>100.00</b>	

### 10.2.3 Fire-Cracked Rock

The presence of fire-cracked rock was also fairly minimal with only nine pieces identified (Table 10.2). Eight pieces are represented by granite and quartzite and an indeterminate material accounts for 1 piece.

**Table 10.2:** Fire Cracked Rock for Level 8.

Material Type	Number of Pieces	Mass (g)	Percent by Count	Percent by Mass
Granite	6	36.0	66.67%	4.97%
Indeterminate	1	67.8	11.11%	93.58%
Quartzite	2	10.5	2.22%	1.45%
<b>Total</b>	<b>9</b>	<b>724.5</b>	<b>100.00%</b>	<b>100.00 %</b>

### 10.3 Organic

Charcoal was fairly prolific in this level and 478 pieces were collected from around the site. Combined, they weigh 23.6g. Over 62% of the charcoal from this level comes from units 124N 109E, 124N 110E, 124N 111E and 124N 112E where a number of hearth and ash features are located within a house pit feature. The remainder of the charcoal is scattered throughout the site.

## 10.4 Faunal Assemblage

This level contained 1050 fragments of bone, teeth and tooth enamel, both identifiable and unidentifiable, with a total combined mass of 4211.1 g (Table 10.3). Approximately three quarters of the bones recovered (75.52%) were unburned. Burned bone and calcined bone occurred much less frequently at 21.81% and 0.10% respectively. Only 2.57% of the faunal assemblage recovered for this level was identified as teeth or tooth enamel and both are represented together in Table 10.3.

**Table 10.3:** Faunal Counts Table for Level 8.

Condition	Count	Mass (g)	Percent
Unburned bone	793	4130.9	75.52%
Burned bone	229	60.0	21.81%
Calcined bone	1	0.1	0.10%
Enamel	27	20.1	2.57%
Total	1050	4211.1	100.00%

### 10.4.1 Taxon and Element Identification

Ten taxonomic designations were identified from the faunal remains uncovered in this level (Table 10.4). The designations range from as broad a category as class to as narrow as species. Very large, large, medium, small and micro-mammals as well as birds are represented in this assemblage. Only one element was identified for each taxon with the exception of *Bison bison*. Elements identified as mature bison, specifically two right astragali and two right metatarsals, indicate that there are two adult individuals present in this level (Table 10.5). A third individual was identified as being fetal but very late gestation (Table 10.6).

**Table 10.4:** Faunal Taxa for Level 8.

Taxon	NISP	Mass(g)	MNI
<i>Accipitridae sp.</i>	1	0.4	1
<i>Antilocarpa americanus</i>	1	2.2	1
<i>Bison bison</i>	67	3657.6	3
Class Aves	1	0.1	1
<i>Canis sp.</i>	1	1.4	1

Family Cricetidae	1	<0.1	1
<i>Lepus sp.</i> (immature)	1	1.0	1
<i>Lepus americanus</i>	1	2.7	1
Order Artiodactyla	1	31.1	1
Order Rodentia	3	0.1	1

**Table 10.5:** Mature *Bison bison* for Level 8.

Element	Left	Right	Axial	Indeterminate	Total Number	MNI
Astragalus	2	2	-	-	4	2
Basioccipital fragments	-	-	4	-	4	1
Calcaneus	-	2	-	-	2	2
Center of ossification	-	-	-	1	1	1
First phalanges	-	-	-	3	3	1
Fragments (assorted)	-	-	-	4	4	1
Fused central & 4 <sup>th</sup> tarsal	-	1	-	-	1	1
Fused second & third carpal	-	1	-	-	1	1
Fused second & third tarsal	-	1	-	-	1	1
Humerus	-	1	-	-	1	1
Incisors	3	2	-	-	5	1
Innominate fragment	-	-	1	-	1	1
Lateral malleolus	1	-	-	-	1	1
Medial malleolus	1	-	-	-	1	1
Metacarpals	1	1	-	-	2	1
Metatarsals	1	2	-	1	4	2
Petrous temporal	1	-	-	1	2	1
Radial carpal	-	-	-	1	1	1
Radius	-	1	-	-	1	1
Third phalange	-	1	-	1	2	1
Tibia (incomplete)	1	-	-	-	1	1
Ulna	-	1	-	-	1	1
Ulnar carpal	-	1	-	-	1	1

**Table 10.6:** Late Stage Gestation *Bison bison* for Level 8.

Element	Left	Right	Axial	Indeterminate	Total Number	MNI
Astragalus	1	-	-	-	1	1
Calcaneus	1	-	-	-	1	1
Distal metapodial fragment	-	-	-	1	1	1
Distal tibia fragment	-	-	-	1	1	1
Epiphysis of phalange	-	-	-	1	1	1
First phalange	-	-	-	1	1	1
Fragment	-	-	-	1	1	1
Fused central & fourth tarsal	1	-	-	-	1	1
Fused second & third tarsal	1	-	-	-	1	1
Mandible segment*	1	-	-	-	1	1

Proximal epiphyseal phalange fragment	-	-	-	1	1	1
Proximal metatarsal fragment	-	1	-	-	1	1
Second phalange	-	-	-	1	1	1
Unerupted molars	-	1	-	1	2	1

\*Two segments have been identified but examination shows that they are part of the same dentary (Figure 10.1).



**Figure 10.1:** Immature mandible segments with unerupted molar.

### 10.5 Artifact and Feature Distribution

This level has a number of interesting characteristics (Figure 10.2). Lithic remains are scattered throughout the site and there are no concentrations that would indicate an area used for even moderate flintknapping. Faunal remains are also scattered throughout the site, but the southeast corner of the site has the highest concentration of fragments as well as complete elements. According to catalogue data, 87% percent of the burned bone for this level was collected from a heavy concentration found in unit 121N 112E.

A number of features were identified in this level. Feature 8-1 is a hearth that also has some associated faunal material. Feature 8-2 denotes the margins of a house pit feature that was

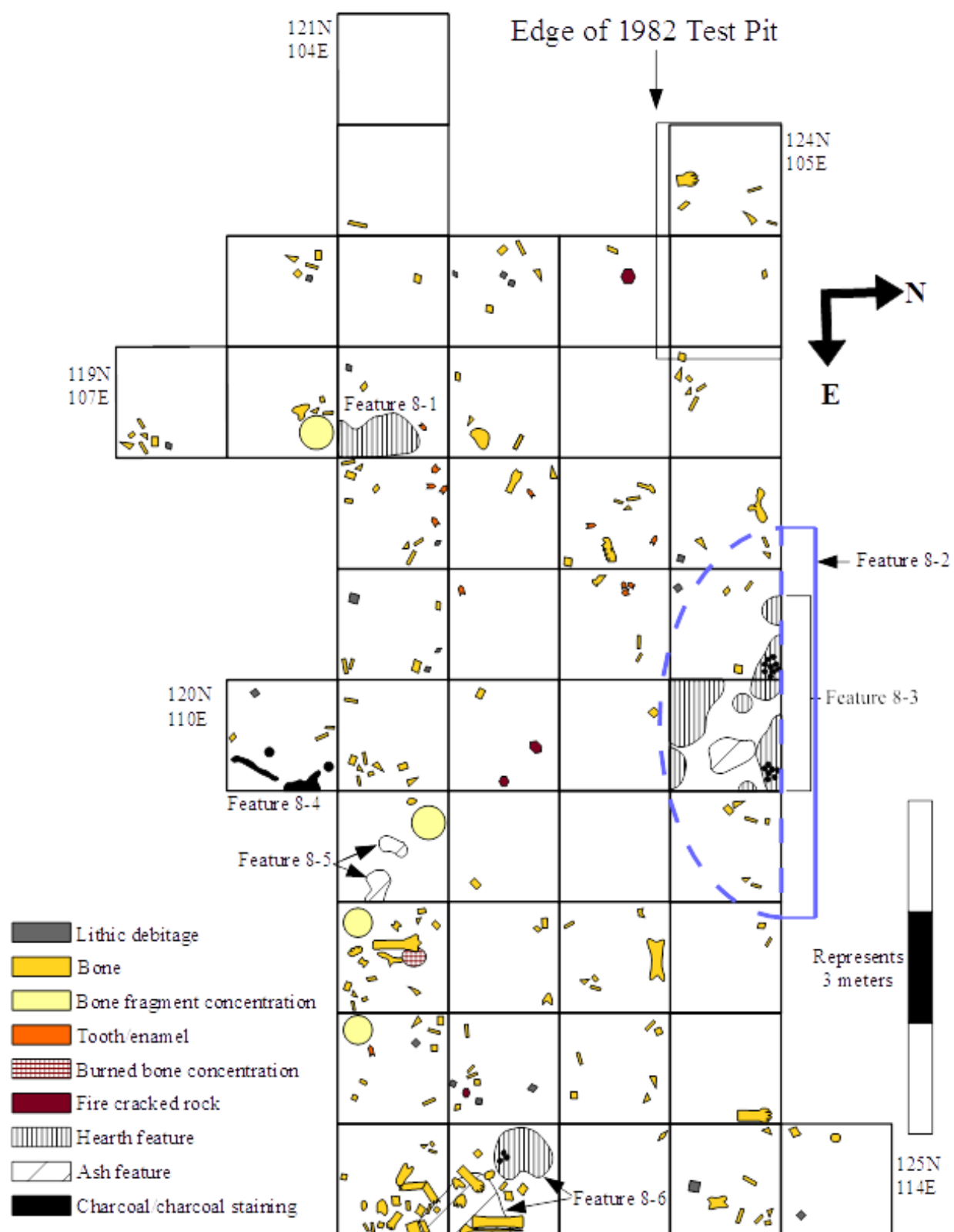


observed in the northern wall profile once it had been excavated. It measures approximately 3.75m in diameter but Ramsay (1993) explains that it could be up to four meters. Feature 8-3 encompasses seven hearth areas as well as an ash feature. Because of their close proximity, they are all likely associated. Ramsay also surmises that they are associated with the house pit feature (Figures 10.3 and 10.4). Feature 8-4 encompasses four small areas of charcoal staining in the eastern quadrants of unit 120N 110E. These may be associated with the two ash concentrations in unit 121N 111E that make up Feature 8-5 and the majority of the burned bone found in this level was found just east of this feature. Finally, Feature 8-6 is found in unit 122N 114E and includes a hearth and associated ash feature. As the map indicates, a significant amount of faunal remains were found in affiliation with this feature.

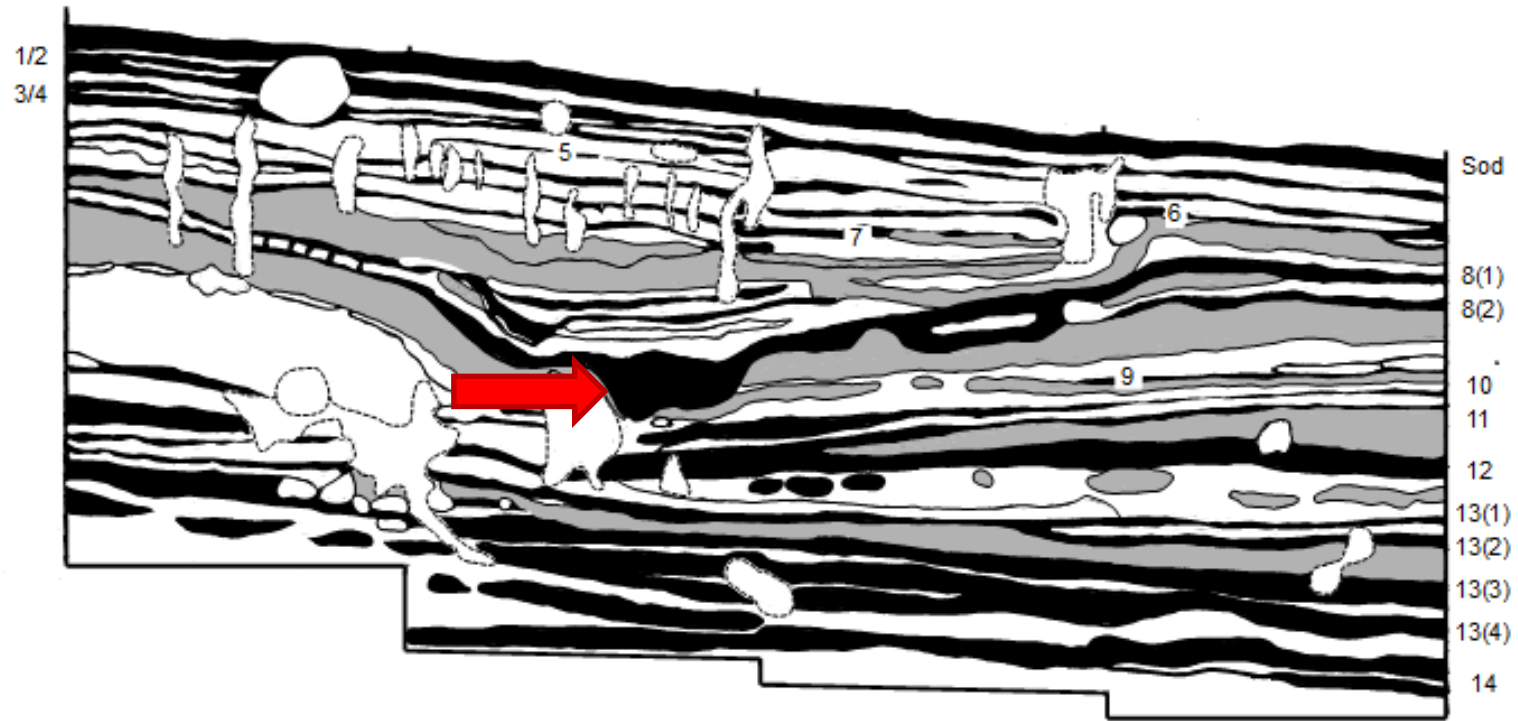
## **10.6 Interpretation**

Multiple activities took place in Level 8. The presence of two cores and some scattered lithic debitage could indicate that expedient toolmaking happened here. Late stage food processing and consumption is indicated by a significant amount of both unburned and burned faunal material, of which 85% was identified as belonging to both mature and immature bison specimens. From these specimens, we can determine that bison, in this case, was the dominant food source. Also, the presence of a late stage gestation individual tells us that the site was occupied in the late spring.

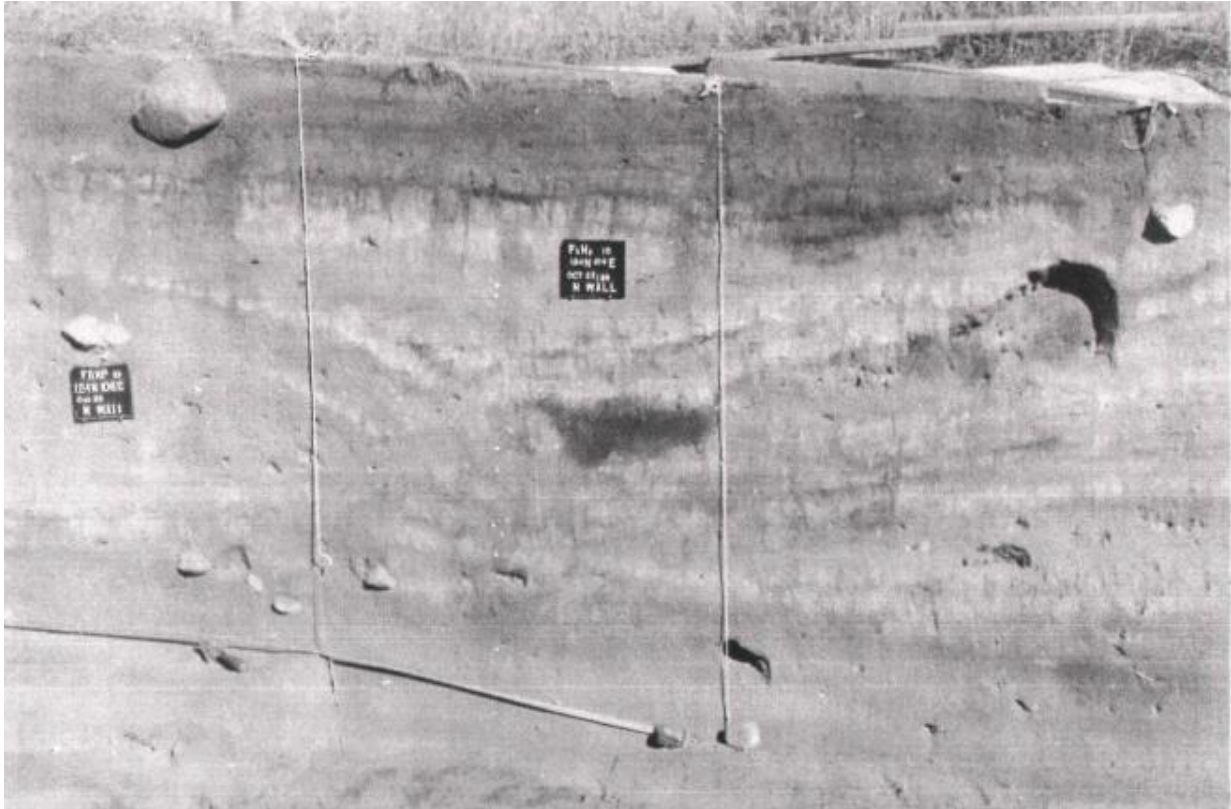
The most intriguing feature of this level is the house pit. House pit features are generally defined as “semisubterranean structures that are usually seen in cross section as a shallow, bowl-shaped depression” (Kornfeld et. al. 2010:390). This is the case at the Red Tail site as the feature



**Figure 10.2:** Level 8 of the Red Tail site.



**Figure 10.3:** Diagram of the house pit feature spanning the north walls of units 124N 108E to 124N 111E. The red arrow indicates a deep hearth from feature 8-3 (Adapted from Ramsay 1993).



**Figure 10.4:** Profile of the north walls of units 124N 108E, 124N 109E and 124N 110E showing the house pit. The dark stain in the center of the photo is the same hearth as denoted in Figure 10.3 (Ramsay 1993).

was not noticed until the northern wall profile was viewed in its entirety and the depression was observed. House pits also tend to have hearths dug into the floors and are fairly clear of debris, which is again the case at the Red Tail site as demonstrated by Figure 10.3 (Ramsay 1993).

Approximately two thirds of house pit features found on the Northern Plains are associated with the Middle Period and the McKean complex in particular (Kornfeld et. al. 2010). There were no diagnostics recovered from this level but radiocarbon samples offer dates of  $3440 \pm 30$  B.P. and  $3300 \pm 30$  B.P. and support a late McKean occupation at the site. For example, some dates for McKean in Saskatchewan range from  $4,280 \pm 90$  B.P at the Red Tail site to  $3,180 \pm 65$  B.P. at the Billet site near Harris, Sk, approximately 80 km southwest of Saskatoon (Peck 2011; Ramsay 1993).

## 10.7 Overview of the Red Tail Site

The Red Tail site is one of 19 precontact archaeological sites located within Wanuskewin Heritage Park, north of Saskatoon. In the early 1980s, tests of the site were undertaken by Dr. E. G. Walker who determined that further excavation would be valuable. Over the summers of 1988 and 1989, 44 m<sup>2</sup> up to a depth of 2.3 m in some units, were excavated by field school students from the University of Saskatchewan under the direction of Dr. Walker and graduate student Charles Ramsay, who later produced a thesis based on a partial analysis of the site. Paid excavation crews as well as numerous volunteers also assisted with excavations. In total, over 100 people worked at the site. These excavations revealed a multicomponent habitation site with 15 cultural levels and a radiocarbon date revealing that the site had been occupied many times over the last 5,000 years (Ramsay 1993). However, due to the large number of units and resulting large amount of data, the focus of Ramsay's work was on levels 8 to 15 only (Ramsay 1993). The current study focuses on levels 1 to 7 with a re-examination of level 8 because of the house pit feature found in that level. Below, a review of the site in its entirety from both this study as well as Ramsay's will be given.

Cultural levels 1 and 2, the uppermost cultural levels of the site, had to be examined together because they could seldom be distinguished from one another. Two broken Avonlea points, two projectile point tips believed to belong to the Avonlea culture, as well as two Besant points were recovered from this level, placing it in the Late Middle to Early Late Precontact periods. This is supported by a radiocarbon date of 1340 B.P. The hearth features and faunal remains indicate that some late stage food processing occurred at this time and areas of concentrated lithic remains, including a fair amount of heat-treated Swan River Chert, indicate that flintknapping was also taking place.

Levels 3 and 4 were also examined together for the same reasons as levels 1 and 2. In all 44 units, there is only one unit where full separation between levels 3 and 4 exists. A single, very crudely made projectile point was recovered from level 3/4 and likely belongs to the Sandy Creek Complex. Similar to level 1/2, this level indicated mixed use. Flintknapping activities are evidenced by the presence of lithic debitage, hammerstones and a few formed tools and late stage food processing is indicated by the condition of faunal remains. Three hearth features and a substantial stone pit feature with associated fire-cracked rock were also recorded. This area was likely a well-used habitation site.

Level 5 is quite sparse and artifacts are sporadically dispersed throughout. The level itself is also inconsistent throughout the site and is completely absent in some areas. The bulk of associated artifacts were found in the southern half of the site and therefore the possibility exists that excavations only uncovered a portion of a more heavily occupied living floor. It is also possible that this was an expedient campsite and inhabitants moved on quickly.

Level 6 also has a meager artifact assemblage, but does have a number of central hearth features. A hammerstone and a large anvil stone were found in this level and a small concentration of faunal remains recovered in the southeast portion of the site indicate some food processing. There is no evidence of significant flintknapping activity as only 69 pieces of debitage were recovered. Little interpretation can be provided for this level.

Level 7 is also difficult to interpret due to a lack of archaeological material. The thinness of the level and distribution of the identifiable bison remains indicate that mixing may have occurred between levels 6 and 7. Two hearth features in the eastern third of the site and a moderate incidence of bone fragments indicate some food processing and only 17 pieces of lithic debitage were uncovered.

Level 8 has a moderately dense artifact assemblage with a number of features present throughout. Faunal remains indicate the presence of three bison, one of which was determined to be very late stage gestation, which indicates spring occupation of the site. Certainly butchering and other processing activities were occurring, but a very low incidence of lithic remains indicates little flintknapping took place or this activity occurred elsewhere at the site. The house pit feature in this level renders this site fairly remarkable as it is the only house pit found on the Canadian Plains. Charcoal from a hearth feature located within the house pit feature was dated to  $3300 \pm 30$  B.P. and bone fragments recovered from a unit located in the southwest portion of the site returned a date of 3440 B.P. These radiocarbon dates situate the level within the timeframe for a late McKean occupation.

Level 9 had very little archaeological material and was “heavily disturbed by natural processes” (Ramsay 1993:351). Aside from very little core reduction, there is little material to interpret in this level (Ramsay 1993).

Level 10 has a high incidence of bison bone, including a cranium, evidence of expedient tool-making, two unifaces and few features, which lead Ramsay to argue that a small kill event may have taken place close by rather than the area having been used as a campsite (Ramsay 1993).

Level 11 has a significant number of features and a particular cluster of hearths, ash and charcoal features reflect a prominent activity area. Some lithic debris and fire-cracked rock is also associated with this cluster and a large number of cores also indicate a high level of flintknapping in general. The presence of immature bison remains indicate the site was occupied in the spring and/or summer. A radiocarbon date given for this level is 3480 B.P. The body

portion of a Hanna point was also recovered from this level, offering a McKean culture association (Ramsay 1993).

Ramsay identifies two occupations for level 12. There is a large presence of cultural material and a midden area is identified in the southeast portion of the site. A cluster of hearths, ash and charcoal features in the western half of the site also has a number of associated lithic and faunal remains including two projectile points resembling the Hanna-type and a large number of lithic cores, indicating significant flintknapping. The presence of immature bison remains, aged seven months, indicate the site was occupied in late fall, possibly continuing into winter. Two radiocarbon samples offer dates of 3470 B.P. for the upper part of the level and 3660 B.P for the bottom (Ramsay 1993).

Level 13 is divided into four sublevels. Level 13(1) contains numerous bison remains, including two adult individuals and an immature specimen placing the time of occupation in the spring and summer. A number of cores and an appreciable amount of lithic debris are evidence for a moderate to high incidence of flintknapping. A pit feature with an upright ulna and associated fire-cracked rock was identified as a boiling pit (Ramsay 1993).

Level 13(2) contained a McKean point as well as a possible Duncan point fragment. There is evidence that faunal remains may have been mixed with level 13(1) because individuals identified for this level also include two adults and one immature bison. A number of cores, associated debitage as well as three unifaces do indicate tool making in this level. Radiocarbon dates taken from bone in this level offered dates of 3860 B.P. and 3880 B.P (Ramsay 1993).

Level 13(3) has a sparse assemblage with few faunal remains that include one adult bison and a canid. A single biface tip is the only tool recovered but some debitage and a few cores



were also found. Ramsay postulates that this level reflects a short occupation or may be on the periphery of a larger living floor (Ramsay 1993).

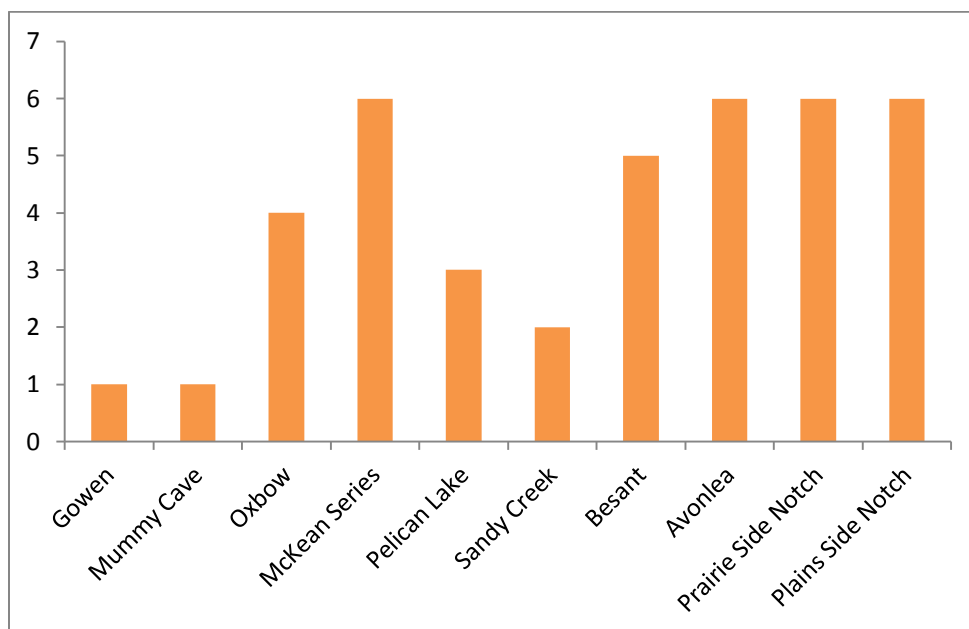
Level 13(4) also has few remains, but does include faunal remains and lithic artifacts. Two McKean points were found in this level and a radiocarbon date from a bone sample in this level provided a date of 4280 B.P. Faunal remains from a one month old bison suggest a spring/summer occupation.

Level 14 is treated as a single assemblage, though Ramsay suggests that there are three separate occupations that occurred. Late-stage food processing is indicated by the presence of two concentrations of bone fragments in the level and flintknapping is evidenced by the presence of cores and associated debitage. There were no diagnostic artifacts found in this level and a radiocarbon sample was not taken.

Level 15 is the earliest cultural level at the Red Tail site. Again, Ramsay suggests that there were three separate occupations but that interpretation was limited due to the smaller area excavated to this depth. Some debitage and faunal remains were present and a bone sample from sublevel 15(2), associated with lithic flakes and bison bone fragments, offered a radiocarbon date of 5010 B.P. (Ramsay 1993).

The analysis completed on the upper eight levels at Red Tail has further confirmed it as a multicomponent habitation site that has been occupied numerous times over a period of thousands of years. This is characteristic of each site within the Park, though Meewasin Creek (Frary 2009) and Newo Asiniak (Kelly 1986) do have levels which indicate episodes when they were used as kill sites. and there is a possibility that the McKean level at the Wolf Willow site is associated with a bison kill (Maria Mampe, personal communication 2015).

The presence of Besant and Avonlea components within the Red Tail site also situates it within a well-established time span that includes the terminal Middle Precontact Period and the Late Precontact Period, as indicated by Figure 12.1.



**Figure 10.5:** Graph representing the number of archaeological sites within Wanuskewin Heritage Park at which each of the archaeological cultures is represented (Amundson 1986, Kelly 1986, Ramsay 1993, Mack 2000, Harty 2005, Cyr 2006, Frary 2009, Pletz 2010, Smith 2012, Maria Mampe, personal communication 2015).

The Red Tail site was the fourth site to be excavated at Wanuskewin but, while radiocarbon dates at both the Amisk (Amundson 1986) and Newo Asiniak (Kelly 1986) sites fell within the accepted timeframe for McKean occupation in the area, they offered no diagnostics. Therefore, Red Tail was the first to reveal a McKean component in what we now know is a strong McKean presence in the Opimihaw valley. Of the six sites excavated after Red Tail, five others have presented with McKean occupations. In order of excavation, these are Thundercloud (Mack 2000), Cut Arm (Smith 2012), Meewasin Creek (Frary 2009), Dog Child (Cyr 2006, Pletz 2010) and Wolf Willow (Maria Mampe, personal communication 2015). The cultural

occupations at the Red Tail site have followed a consistent pattern of occupation that has been revealed through over 30 years of excavation at Wanuskewin Heritage Park.

## **Chapter 11**

### **Public Archaeology in Saskatchewan**

#### **11.1 The Beginning of a Partnership**

In 1988, the Red Tail site was the first archaeological site at Wanuskewin Heritage Park to have a field school open to volunteers (Ramsay 1993). This began a partnership between the University of Saskatchewan, Wanuskewin and both the Saskatoon and Saskatchewan Archaeological societies that continues today. Since then, members of the public have been welcome to volunteer at other sites in the park, including the Thundercloud site (Saskatchewan Archaeological Society 1994), the Meewasin site (Elliot 1999, Ramey 2001), the Cut Arm site (Moon 2001), the Dog Child site (Pletz 2010) and the Wolf Willow site (Reihl-Fitzsimmons et al. 2014). Having members of the public directly involved in the excavations that have produced such a large quantity of valuable information to archaeology has, since the beginning, helped to fuel the momentum needed to build Wanuskewin Heritage Park into what it is today (Ernest Walker, personal communication 2015). Public involvement and support continues to be beneficial as the park gets ready to implement more changes, including applying for UNESCO World Heritage status. In light of this important step that Wanuskewin is taking, it seems an appropriate time to consider community engagement and public involvement and education in archaeology, not just in relation to the park, but also within the province of Saskatchewan.

Throughout this chapter it will be demonstrated that the dissemination of information about archaeology to members of the public has a solid footing in this province. Karolyn Smardz Frost (2004:59) states that concerning archaeology “we have recognized that cultural tourism has both economic and proselytizing benefits, that immense amounts of dirt can be moved by enthusiastic volunteers, and that garnering public support beforehand is essential to ensuring the

passage of protective heritage legislation”. It is with these ideas in mind that this chapter will explore how opportunities to participate in archaeology are being presented to members of the public and how that involvement benefits the discipline and associated organizations as a whole and what role Wanuskewin Heritage Park may play in this activity.

## **11.2 Moving Forward to Preserve the Past**

At the present time, Wanuskewin Heritage Park is in the process of applying for United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage status (Ernest Walker, personal communication 2015). UNESCO was established in 1945 “in order to respond to the firm belief of nations, forged by two world wars in less than a generation, that political and economic agreements are not enough to build a lasting peace. Peace must be established on the basis of humanity’s moral and intellectual solidarity” (UNESCO 2015a). UNESCO seeks to establish this solidarity by supporting and mobilizing for freedom of expression, “access to quality education as a fundamental human right” (UNESCO 2015) and encouraging scientific partnerships. They also advocate for intercultural understanding “through protection of heritage and support for cultural diversity. UNESCO created the idea of World Heritage to protect sites of outstanding universal value” (UNESCO 2015).

UNESCO World Heritage sites are divided into two categories; cultural and natural. In Canada, there are a total of 17 World Heritage sites, nine of them are natural while the remaining eight are cultural. Only two of the latter are located in western Canada. These are Head-Smashed-In Buffalo Jump in southern Alberta and the village of Ninstints, a traditional Haida village, in Haida-Gwaii on the north coast of British Columbia (UNESCO 2015b).

For Wanuskewin Heritage Park to be successful in this application, they must meet at least one out of ten listed criteria. Wanuskewin, arguably, meets a number of these criteria, two of which include:

- “[Bearing] a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared”;
- “[Being] an outstanding example of a traditional human settlement, land-use or sea-use, which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change” (UNESCO 2015).

Furthermore, the Red Tail site has the only example of a McKean housepit feature in the prairie provinces, which is certainly both unique and exceptional. While Wanuskewin was designated a National Historic Site by Her Majesty Queen Elizabeth in 1987 (Wanuskewin 2015a), UNESCO designation would put it on the world stage and further establish the Park as an exceptional place of importance for some of North America’s First Nations people.

### **11.3 Personal Experience**

The issue of public involvement in archaeology is of particular interest to me because all of the archaeological work that I have done in this province has had a public component. I was employed for the Grace Adam Metawewinihk Archaeological Project in 2009 and for the South Branch House Project in 2010. I then spent the summers of 2013 and 2014 touring the southern areas of the province with the ArchaeoCaravan. Furthermore, I am also involved with both the Saskatoon and Saskatchewan Archaeological Societies. I have been the editor of the Saskatoon chapter’s newsletter for five years and act as chapter representative on the Board of Directors for the provincial society. I also co-chair the Programs Committee for the provincial society. As a

result of these experiences, I have been directly involved with public programming in archaeology as well as with members of the public and am uniquely qualified to speak to the topic of public archaeology in this province.

## **11.4 The Public**

### **11.4.1 The Public Non-Entity**

Before considering the relationship between archaeology and the public, it is first important to define that public. What is it? Or, rather, who are they? According to Merriman (2004:2) the term “the public” is an “unsatisfactory” designation to refer to “a hugely diverse range of people, with different age, sex, class, ethnicity and religious interests and affiliations, many of which conflict with each other”. The term itself is also problematic to refer to a dynamic group because it removes human agency – “the public” is not a single entity driven by one mindset. However, if we are given to understand that, as Merriman suggests, ‘the public’ refers simply to a group of non-archaeologists, archaeologists are then able to consider the varied composition of individuals that form this group. Furthermore, this can allow for dialogues that reflect the interests of those people we, as archaeologists, attempt to engage as well as those we serve (Merriman 2004). For the purposes of this thesis, the term “the public” will follow Merriman’s guideline and refer collectively to those people who are not archaeologists.

### **11.4.2 Public Interest and Assembly in Saskatchewan**

Karolyn Smardz Frost (2004) suggests that the subject of archaeology has always been of interest to members of the public and evidence of that interest can be found in a number of places such as television, movies, print media and the ever-growing electronic universe that is the internet. In Saskatchewan, the formation of a number of avocational archaeological societies is strong evidence for this statement. The Saskatoon Archaeological Society began in 1935 when

John H. Sewell, former cowboy and insurance company representative, and Valdimar A. Vigfusson, a chemistry professor at the University of Saskatchewan, rallied in an effort to start an amateur archaeologist group. Other founding members included history professor and later prominent author Arthur Silver Morton, professor of agriculture Grant McEwen (who later went on to become the Lieutenant Governor of Alberta) and Dr. John W.T. Spinks, another chemistry professor who went on to become the president of the University of Saskatchewan. Early meetings of the society often consisted of discussions around archaeological happenings in other parts of the world as archaeology had not yet been established as a discipline in the province (Jones et. al. 1988).

There was often also a “show-and-tell” aspect to some of the meetings that involved the display and discussion of artifacts from private personal collections, when collecting of archaeological material in such a manner was encouraged and long before the Heritage Property Act came into place in 1980 (Jones et al. 1988). Members of the Saskatoon Archaeological Society also used to gather for social events at the medicine wheel at what became Wanuskewin Heritage Park (Ernest Walker, personal communication 2015).

Today, the Saskatoon Archaeological Society’s executive consists of a President, Vice-President, Secretary, Treasurer and four Directors, as well as appointed positions for the newsletter editor and webmaster. The Society celebrates its 80<sup>th</sup> anniversary in 2015 and is still fairly dynamic, composed of both professional and avocational archaeologists, university faculty and students as well as other interested members of the general public. The society publishes a monthly newsletter, the Bison Post, and has monthly meetings during the academic year, where speakers are invited to present to the members on a variety of archaeological, anthropological and historical topics.



The Saskatoon Archaeological Society has since become a chapter of the Saskatchewan Archaeological Society (SAS), which began in 1963. In a letter written by Thomas Kehoe, a professional archaeologist, and printed in the first issue of the SAS newsletter, he explains that the interest in archaeology demonstrated by the people of Saskatchewan was great enough to warrant the establishment of a provincial society. Provincial societies in Saskatchewan had been established previous to this one, the first being in 1911, but all had been disbanded. The current society has now been active for 52 years and its members are composed of avocational and professional archaeologists alike. There are 18 volunteer positions on the Board of Directors, but the Society also employs an Executive Director, a Public Outreach Coordinator, and a Business Administrator in an office located in Saskatoon. As a not-for-profit entity, the Society is considered an “eligible provincial cultural organization” and qualifies for funding from SaskCulture Inc. through Saskatchewan Lotteries. This funding covers employee salaries as well as many of the operational costs involved in running the organization (Reihl-Fitzsimmons et al. 2014:159).

The SAS is the umbrella group for nine chapters in the province (Table 11.1). Each chapter, with the exception of the Saskatchewan Association of Professional Archaeologists, is open to the general public for membership and organizes its own activities. These include field trips to archaeological and historical sites or points of interest, field school excavations or surveys, monthly meetings with guest lectures and a number of other activities. The provincial society itself also runs their own activities separate from the chapters (Reihl-Fitzsimmons et al. 2014).

**Table 11.1:** Chapters of the Saskatchewan Archaeological Society.

Chapter	Year of Inception
Archaeological & Historical Society of West Central Saskatchewan	1980
Cypress Hills Archaeological Society	1987
Eagle Creek Historical Society	1985
Northwest Archaeological Society	2001
Pipestone Archaeological Society	2005
Regina Archaeological Society	1965
Saskatchewan Association of Professional Archaeologists	1977
Saskatoon Archaeological Society	1935
Southwest Saskatchewan Archaeological Society	1982

(Reihl-Fitzsimmons et al. 2014)

Part of the provincial Society’s mission is to “carr[y] out activities and programs to engage the interest and enlist the involvement of all citizens in the identification, protection and preservation of archaeological heritage resources” and they have carried out various public programs to this end since their inception (Saskatchewan Archaeological Society 2105a) The SAS has a number of committees that oversee the activities and management of the organization, three of which, in particular, are devoted to public engagement. These are the Public Education, Public Relations and Programs committees. The Public Education committee assists in the organization of workshops offered by the Society and the Public Relations committee is responsible for promoting the Society as well as the events and activities it offers. The Programs committee works to organize field schools and the fall bus tour, as well as the annual gathering and AGM (Reil-Fitzsimmons et al. 2014).

The SAS has also provided member funding grants since 1989. In 1990, Charles Ramsay’s work at the Red Tail site was the first Wanuskewin Heritage Park project to receive funding from the Society. Since its early support for the Red Tail project, the Society has funded many other graduate student projects at Wanuskewin including the Thundercloud, Meewasin, Dog Child, Cut Arm and Wolf Willow sites (Reihl-Fitzsimmons et al. 2014). In exchange for this funding, recipients are asked to provide a copy of their thesis to the Society so that it can be

made available to its members. They also request that a report be provided for printing in the Saskatchewan Archaeology Quarterly, which assists in the diffusion of knowledge about Saskatchewan archaeology and makes it more accessible to members of the interested general public.

## **11.5 Recent Public Programming in Saskatchewan**

There are a number of ways that members of the public have been invited to participate in archaeological activities within the province of Saskatchewan. Most of these have been offered by the SAS or one of the associated chapters, but others have been offered in affiliation with the University of Saskatchewan, such as the Grace Adam Metawewinihk Archaeological Project (GAMAP). Recent examples will be discussed in detail below.

### **11.5.1 Wanuskewin Heritage Park Field Schools**

Field schools offered to both archaeology students at the University of Saskatchewan as well as to members of the public have been happening at Wanuskewin for many years. For instance, in 1988, the Saskatoon Archaeological Society hosted approximately 50 people for a “Volunteer Week” at the Red Tail site (Ramsay 1993). Field schools at Wanuskewin continue to present day and still involve both University of Saskatchewan student field schools and public field schools, now organized by the SAS. Currently, the site being excavated is the Wolf Willow site, a multicomponent habitation site and possible bison kill-site located in the center of the Park near Opimihaw Creek (Maria Mampe, Personal Communication, 2015). Excavations have been conducted at the Wolf Willow site since 2010. Within the park, the site is ideally located for visitors to observe and ask questions of the excavators. As a means of broadening access beyond the student excavators eligible for the University of Saskatchewan field schools, the Saskatchewan Archaeological Society has hosted public field schools (Figure 11.1) at the park

since 2004 and the 2015 field season marks the tenth field school offered at Wanuskewin by the SAS (Reil-Fitzsimmons et. al. 2014).



**Figure 11.1:** SAS public field school at the Wolf Willow site in Wanuskewin Heritage Park, 2011 (Photo courtesy of the Saskatchewan Archaeological Society).

For both the student and public participants, being able to take part in archaeology within the park is a unique experience not offered by other field schools. Not only is the park located within close proximity to Saskatoon, but participants have the benefit of exploring the interpretive center and learning about First Nation's traditions in a geographic location of great importance to some of Saskatchewan's First Nation's people. Part of Wanuskewin's mission is that they are committed to keeping alive and teaching people about traditional Indigenous cultures while also appreciating how those cultures have evolved. They hold ceremonies, workshops and traditional dance performances and they offer access to walking paths through the valley and uplands for members of the public to experience the area in a natural, mostly undeveloped state. Over the years the archaeological excavations that have taken place in the park have also been open for viewing by the public so that they may have the opportunity to learn about how important the collection of artifacts and associated information can be to learning about how people lived in and utilized resources in the area for thousands of years

(Wanuskewin Heritage Park 2015a). The interface between archaeology and the First Nations community is critical and this is recognized by both the Canadian Archaeological Association and the Society for American Archaeology who have mandates that respect this relationship. Both groups also distinguish the importance of sharing archaeological information with members of the public (Canadian Archaeological Association 2015; Society for American Archaeology 2015).

### **11.5.2 South Branch House Field Schools**

South Branch House is the site of a former trading post, possibly run by the Hudson's Bay Company in the late 1700s (Koblun and Playford, 2014). Located near St. Louis, SK, only a few minutes north of the Batoche National Historic Site, South Branch House was designated as a Provincial Historic site in 1986 (Parks Canada 2015a). Excavations by the SAS began in 2005, public field schools at the site began in 2007 and the program has since been well established. It was decided that the 2014 field season would be the last so that a full comprehensive report of the site could be written and the Society could pursue other opportunities for public engagement (Koblun and Playford 2014).

The South Branch House program was primarily directed at engaging groups of school children. From 2010 to 2015, local area school groups were invited to participate in excavations and other activities. Groups would arrive in the morning and learn about archaeology through an educational talk and excavations. This experience also included learning how to fill out artifact cards and draw maps (Figure 11.2). Afternoons would be spent learning about the fur trade with an interactive group game developed by the SAS, as well as how First Nation's people hunted with the atlatl and dart (Koblun and Playford, 2014).



**Figure 11.2:** Students participating in fieldwork at South Branch House (Photo: Koblun and Playford 2014).

In the last year at South Branch House, a collaboration was initiated between the SAS and the Saskatoon Open Door Society which “exists to welcome and assist refugees and immigrants to become informed and effective participants in Canadian society, and to involve the Saskatoon community in their hospitable reception and just acceptance” (Saskatoon Open Door Society 2015). New Canadians were invited to participate in the field school to learn about some of Canada’s history and it was a successful endeavor (Koblun and Playford, 2014). While the South Branch House project has been completed, a partnership with the Open Door Society remains and the hope is to involve them in other programs offered by the SAS.

### **11.5.3 ArchaeoCaravan - Museums Program**

The ArchaeoCaravan, a program offered by the SAS, is essentially a mobile classroom used to teach school children and members of the public about archaeology. Its inception began in the mid-1990s when the program ran over the summers of 1994 and 1995. The program was

revised and revived in 2011 and set up for an event in Allan, SK. From there, it was decided that a partnership with museums would offer a number of benefits and efforts would be made to run the program in different parts of the province over the next number of years. Primarily, the program offered the opportunity for students and members of the public in different Saskatchewan communities to learn about archaeology. In partnering with community museums, the program would also bring in more visitors and a chance to showcase some of the local history. Another benefit for the museums was that the ArchaeoCaravan staff could offer assistance with and information about the museums' archaeological collections. Fostering a relationship between the Society and the museums was also an important endeavor that was undertaken through this program (Reihl-Fitzsimmons et al. 2014).

Since 2012, two staff members have been hired to run the ArchaeoCaravan each summer and travel to different areas of the province to offer the program in each of the museum networks. During the month of June, a typical day entailed set-up at the host museum, with groups of students participating in the program every hour. The hour would begin with a brief introductory talk, then the students would split into groups and participate in the day's offering of activities. The activities were geared towards teaching students about the lifeways of our province's First Nations people including learning about pottery, rock art and bison hunting as well as some of the jobs archaeologists do such as artifact identification and ceramic reconstruction. The final portion of the day would generally be an open public event, during which time the staff would often assist with any questions from the museum or even members of the public who chose to bring in items from their private collections (Figure 11.3). In July and August, full-day public events were held at museums as well as a number of provincial parks and anyone could participate in the activities. The initiation of a partnership with the provincial parks

was also very beneficial because greater it provided exposure of archaeology to a broader audience. The ArchaeoCaravan will be touring the northwestern portion of the province for the summer of 2015 and will continue to the northeastern part of the province in 2016 (Tomasin Playford, personal communication, 2015).

In 2013, the hard work of the Society and the summer staff was recognized when the ArchaeoCaravan – Museums Program became a finalist for the Governor General’s Canada History Awards for Excellence in Community Programming (Riehl-Fitzsimmons et. al. 2014).



**Figure 11.3:** (Left to right) Me and Maria Mampe discussing an artifact with a member of the public in Esterhazy, SK, 2013.

#### **11.5.4 Grace Adam Metawewinihk Archaeological Project (GAMAP)**

GAMAP is no longer an active project in Saskatchewan, but as an important collaboration between the University of Saskatchewan and the Saskatoon Catholic School Board, it certainly deserves mention in the context of this thesis.

Laura Foley, then principal of St. Mary’s Community School, Elder Mary Lee and a number of staff and parents of St. Mary’s were responsible for initiating this project. It was



designed “as a means of integrating social studies, reading, science and cultural awareness for the predominantly Aboriginal students of the [participating schools] through the discipline of archaeology” (Foley 2008:1). The community schools involved were from Saskatoon’s inner city. From 1993 to 2009 and under the supervision of Dr. Christopher Foley, qualified archaeology students from the University of Saskatchewan were hired for approximately four weeks in the summer to teach students how to excavate at an archaeological site. The site, conveniently located near St. Mary’s Community School, was once owned by the Canadian Pacific Railway and then by the Saskatoon Catholic School Board. It was determined to be an ideal location to use for the purposes of an educational excavation (Foley et al. 2009). A traditional ceremony including an offering of tobacco, tipi raising and traditional dancing (Figure 11.4), as well as a round dance involving everyone participating in the project, took place on the first day of excavations each year. For the participating students, learning how to excavate also involved learning how to take measurements of where artifacts were uncovered in the ground as well as how to fill out artifact cards and draw planview maps. The final day of the field season featured activities such as learning how to use a darts and an atlatl, traditional food including bison stew and a display of the artifacts uncovered by the students who participated (Foley 2008).



**Figure 11.4:** St. Mary's OSKIYAK Song and Dance Troup performing for participants on the opening day of the 2009 project year.

After 16 years, the project finally came to an end when the nearby demolition of St. Mary's Community School and the building of the new St. Mary's Wellness and Education Centre rendered the area unsafe for excavation. The Grace Adam Metawewinihk Archaeological Project offered the opportunity for students to learn about Aboriginal heritage, to learn about some of Saskatoon's history, and to interact with university students. Likewise, the university students gained experience supervising and directing excavations while also learning about Aboriginal traditions and interacting with students from inner city communities. It was an educational opportunity for all involved that was exclusive to this project and was a success for many years with the support of the University of Saskatchewan, the Saskatoon Catholic School Board and the local Aboriginal community, as well as the Saskatchewan Archaeological Society (Foley et al. 2009).

## **11.6 Other forms of Engagement**

### **11.6.1 Workshops**

In the last number of years the SAS has either hosted or participated in hosting a number of archaeology related workshops. Recent ones include workshops on lithic identification, flintknapping and making bone tools as well as prairie plant identification. As part of the

Society's public education mandate, the workshops offer participants the opportunity to spend a full day learning about one aspect of archaeology. Workshops are open to anyone interested, regardless of their level of knowledge on the subject matter and are generally held within Saskatoon's city limits which makes them easily accessible to the general public (Saskatchewan Archaeological Society 2015b).

### **11.6.2 Tours**

Visits to historical and archaeological sites are a very popular pastime among members of the SAS as well as the provincial chapters and there are a number of opportunities offered for this type of activity. Members tour not only these types of places in Saskatchewan, but the SAS fall bus tour has taken members all over Alberta, Manitoba and into Montana and North Dakota. The bus tour has been ongoing since 1981 (Riehl-Fitzsimmons et al. 2014). Alice Trusty, dedicated volunteer with the SAS, also plans a study tour to take place every few years. The study tour groups have travelled to a number of interesting places such as Italy (Figure 11.5) and Ireland and the 2016 tour will be going to France.



**Figure 11.5:** Members of the SAS 2014 Study Tour take a walk around the Amphitheatre in Rome. (Photo courtesy of Karmen VanderZwan)

### **11.6.3 Survey Opportunities**

The SAS has also facilitated a number of opportunities for public involvement in field work offered through other avenues. Dr. Margaret Kennedy, Dr. Christopher Foley and Laura Foley from the University of Saskatchewan have been conducting topographic surveys at Cabri Lake since 2011, recording numerous rock features (Saskatoon Archaeological Society 2014) and every year have invited members of the public to participate. Muriel Carlson is doing similar work in Herschel, SK and also extends an invitation to the public to participate. The SAS advertises these through their membership.

### **11.7 Public Outreach**

At the time that the Red Tail site was excavated, only a few modes of advertising public events like the volunteer week existed. These essentially included the Saskatoon chapter and provincial society newsletters and word of mouth (Figure 11.6). But, in the late 1980s, a series of television episodes was co-produced between the Saskatchewan Archaeological Society and Cable Regina. The series was titled “Discovering Saskatchewan’s Past” and was hosted by Dr. Margaret Hanna who was at that time the Assistant Curator of what is now the Royal Saskatchewan Museum. The purpose of the episodes was to educate interested viewers (and those who did not yet realize that they were interested) about archaeology in the province. Twelve episodes were taped with topics including stone tools, tipi rings, rock art, historic archaeology and an episode each about Wanuskewin Heritage Park and the history of the SAS. The program aired on the Cable Regina station from October 1987 to March of 1988 which, unfortunately, only included the city of Regina and immediate area. However, the SAS made sure to have VHS and Beta copies available for their members to borrow (Riehl-Fitzsimmons 2014). This was a great way of reaching people in the comfort of their homes and engaging them in local history at a time when most of the information shared about archaeology in the province

came in the form of newsletters that only went out to members of the archaeological organizations. As mentioned, the volunteer week at the Red Tail site was very successful with approximately 50 people attending (Ramsay 1993). Perhaps the show influenced that somehow.

*A Recipient of the 1987 Parks Heritage Award*

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**ARCHAEOLOGICAL WORK AT WANUSKEWIN HERITAGE PARK**

**VOLUNTEERS NEEDED**

Members of the SAS are invited to assist with the excavations at the Red-Tail Creek site, being worked on by Charles (Chuck) Ramsay as part of his M.A. work at the University of Saskatchewan. This is a deeply stratified multi-component camp site, one component of which is probably Avonlea. To date, a boiling pit feature, a probable buried tipi ring, some hearths and a flaking station have been found.

The week of July 16 to 22 has been set aside as formal volunteer week. You may choose to come out any of those days, but you must stay the entire day (9:00 to 4:00). These times may change if the weather is very hot.

Saturday July 16, there will be an orientation session, at 9:00 a.m. in Room 25, Arts Building, University of Saskatchewan campus (the rest of the day will be spent at the site.).

Sunday, July 17, there will be a short tour of Wanuskewin Heritage Park, the rest of the day will be spent digging.

For the other days please meet at the main gate to the park (see map) no later than 9:00 a.m. (car pooling recommended). Those requiring a ride can come to the Anthropology Department on

campus by 8:30.

Each person should bring a lunch, drinking water, bug spray, appropriate clothing and footwear, gloves, etc. All other equipment will be provided.

**NO** pets, alcohol or very small children.

**NO** smoking allowed on site.

You must be a member of an archaeological society (or chapter) or be sponsored by a member.

You may also volunteer for any other weekday during the summer, just let Chuck Ramsay know ahead of time.

Please let us know if and when you will be able to come out.

or Call 966-4177 (day time)  
Call 242-1423 (evenings)

Archaeology is not all work. We are having a **BARBECUE** for volunteers and other Saskatoon Chapter members and their families on **July 21, from 5:30 to 8:30 p. m.** at the Forestry Farm.

Bring your own eats; charcoal, condiments, buns, juice and dessert will be provided. We are also getting a liquor permit, to sell liquor at cost price.

**FUN! FUN! FUN!**

**Directions to Wanuskewin Heritage Park and Red-Tail Creek Site**

*Page 66*

**Figure 11.6:** Original call for volunteers to excavate at the Red Tail site that appeared in the June 1988 issue of the SAS Newsletter (Saskatchewan Archaeological Society 1988).

Since the late 1980s, access to information about archaeology has changed significantly. As mentioned previously, today you can find archaeology everywhere, including print media, television, movies, and the internet (Smardz Frost 2004). Some modes of disseminating information about archaeology in the province have remained the same. For instance, many of the provincial chapters send out newsletters about upcoming events and the SAS sends out a

print publication four times a year, newly re-titled the Saskatchewan Archaeology Quarterly. Advertisements for Saskatoon chapter events also appear in the University of Saskatchewan's *On Campus News* publication, and the provincial society has published advertisements in the Saskatoon Leisure Guide and the annual Tourism Saskatchewan Discovery Guide. However, avenues of public outreach have become more diverse and numerous with the advent of the World Wide Web and social media websites. Valentini (2104:170) states that the reason for this is because "[s]ocial media sites in particular are considered to be fast, cheap and interactive channels for reaching target audiences". Sites like Facebook and Twitter are free to use and offer a quick and direct line to the public. Various societies and organizations associated with archaeology, culture and heritage in the province utilize these sites to engage with their audiences (Table 11.1).

**Table 11.2:** Organizations in Saskatchewan that utilize various social media websites

Organization	Website	Facebook	Twitter
<b>Saskatoon Archaeological Society</b>	✓	✓	
<b>Saskatchewan Archaeological Society</b>	✓	✓	✓
<b>Wanuskewin Heritage Park</b>	✓	✓	✓
<b>Western Development Museum</b>	✓	✓	✓
<b>Royal Saskatchewan Museum</b>	✓	✓	✓
<b>SaskCulture</b>	✓	✓	✓

(Saskatoon Archaeological Society 2015; Saskatchewan Archaeological Society 2015c; Wanuskewin Heritage Park 2015b; Saskatchewan Western Development Museum 2015; Royal Saskatchewan Museum 2015; SaskCulture 2015).

While Valentini (2014) does state the reasons that social media is attractive as an avenue of information, he also argues that it can often be one-sided, rather than provoking two-way dialogue, so using these sites as the sole means of communication may not facilitate the desired end result and the user should beware. However, the combination of social media, website access and email as additions to traditional modes of circulating information have kept archaeology in Saskatchewan accessible to non-archaeologist members of the public.

## 11.8 Why the Public Matters

Some might ask why the public matters. Within North America, it used to be that archaeology relied on public interest because “[p]ublic and educational archaeology really became priorities when the profession realized that it needed the public to accomplish what it could neither do alone, nor force with the help of legislation, the preservation of cultural resources which lay both above and below ground across the continent” (Smardz Frost 2004:61). It should also be noted that the reality of involving members of the public is that you cannot force them all to care or convince them that heritage, culture and archaeology matter (Edwards-Ingram 1997). Archaeologists can only do so much to convince the public of the “potential of archaeology” (Colley 2005). However, current culture resource management (CRM) projects happen now because in the 1960s and 70s efforts were made to engage members of the public as stewards of heritage and it was understood that publicly supported endeavors to save sites from destruction held more weight than those without (Smardz Frost 2004; Merriman 2004). Now that we have provincial legislation (Government of Saskatchewan 2015) and federal legislation (Parks Canada 2015) protecting archaeological and heritage resources, why do we still need to involve the public?

Over time, archaeology has certainly become more professionalized as both an academic discipline and professional institution. This has resulted in a ‘for the public’ rather than a ‘with the public’ mindset; archaeologists have become the stewards of the past and public participation has declined (Merriman 2004). Projects like those discussed demonstrate an attempt to keep the public involved. Public interest still serves archaeology and heritage and fostering that interest is paramount for continued support. The importance of fostering public interest and offering public

education opportunities allows for the diffusion of archaeological, cultural and historical ideas and knowledge (Edwards-Ingram 1997).

### **11.9 The Importance of Wanuskewin as a Cultural Park**

Cultural facilities such as Wanuskewin Heritage Park offer innovative ways to participate in and observe cultural activities. Judge (1984:16) argues that the interpretive processes of understanding that take place within the context of cultural parks are fundamental. For instance, park interpreters at Wanuskewin can educate members of the public about archaeology, traditional land and plant use, cooking and shelter construction in an easily accessible, interesting and fun environment. When the park joins with the SAS to offer the archaeological field school, for participants, seeing stone tools such as projectile points come out of the ground can be a special experience when one has learned about the natural surroundings and is immersed in a mostly unchanged environment that people once called home.

These types of park facilities also allow audiences to compare their own lifeways and life experiences with those of the past. In a time of easy accessibility, overconsumption of goods and instant gratification, making the comparisons between modern conveniences and living off of the land while looking out over the Opimihaw Valley can be very eye-opening and humbling. It is also a valuable learning experience “because [with it] comes a gradual comprehension of the magnitude of the dimensions of the *human* experience” (Judge 1984:16 – Emphasis mine).

Ritter and Dame (1984) offer the argument that members of the public can become advocates for protection of heritage through interactive experiences such as those they can receive through cultural parks. They state that “education and inspiration through interpretation...are necessary to establish the roots of understanding for resource protection [and that] the investment is worth the effort” (Ritter and Dame 1984:227). If Wanuskewin is



successful in its UNESCO application, the site will remain protected but, without visitors, the ability and the means to relay the deep heritage and importance of the area will vanish, so the effort that Ritter and Dame (1984) speak of is being made. The park also seeks to remain relevant in a number of ways that include interpretation, educational programming, environmental preservation and protection of the site (Wanuskewin Heritage Park 2015a).

Wanuskewin Heritage Park and similar cultural parks provide an interface between the First Nations' community and archaeologists which is critical for the discipline. The avocational archaeology community is also a part of this equation and the participation of members of the Saskatoon and Saskatchewan Archaeological Societies in the Red Tail site excavations is an excellent example of this tradition in Saskatchewan. This work continues at present at the Wolf Willow site (FbNp-26). Archaeological research has served as the core of the entire development of Wanuskewin Heritage Park and the 33-year record of continuous research there is of special significance.

### **11.10 Conclusion**

From the early beginnings of avocational interest in archaeology, it has been demonstrated that public archaeology in Saskatchewan is a fairly dynamic enterprise. The formation of the provincial society and its eight associated avocational chapters exhibits clearly the need and desire for these organizations to exist and is also a testament to the willingness and the eagerness with which members of the public wish to participate in archaeology. The four major projects discussed, Wanuskewin, South Branch House, ArchaeoCaravan and the Grace Adam Metawewinihk Archaeological Project have all contributed to community learning about archaeology in different, creative and significant ways. The other opportunities for public engagement in archaeology presented here, including the workshops, tours and surveys, are also

examples of unique occasions to study and even celebrate heritage through material culture.

While, as Renfrew and Bahn (2008: 576) state, some archaeologists “often regard members of the public as a hindrance to work on-site, [m]ore enlightened archaeologists, however, realize the financial and other support to be gained from public interest”.

Using the tools available today such as the internet and social media, the dissemination of information about archaeology and public events in our province is literally at our fingertips.

Using as many modes of communication as possible will help archaeologists to continue to pursue the public interest and garner support and enthusiasm from the public sphere because if nobody cares about it, not only are archaeologists, curators and agents of cultural heritage out of jobs, but the resources to tell us the stories of the past will be destroyed without thought. These are some of the reasons why public archaeology matters and why cultural parks like Wanuskewin, that promote multiculturalism, continue to be relevant in our society today.

## **Chapter 12**

### **Summary and Conclusions**

#### **12.1 Objective Overview**

There were three primary objectives in undertaking this research project. The first was to complete the examination of all of the excavated materials and associated documentation from levels 1 to 7 that were excavated at the Red Tail site in 1988 and 1989 as well as to re-examine level 8. The second objective, as a result of the first, was to complement and expand the already existing knowledge of past lifeways within the boundaries of Wanuskewin Heritage Park. The final objective was to demonstrate how archaeology in Saskatchewan is being made accessible to the public and to offer insight about the need for and importance of public education and involvement in archaeology, particularly involving interpretive programming at Wanuskewin Heritage Park.

#### **12.2 The Red Tail Site**

The first two objectives are met in chapters 5 through 10 of this thesis and present an in-depth archaeological analysis of cultural levels 1 to 7, a re-examination of level 8 and a brief overview of levels 9 to 15 of the Red Tail site. An examination and analysis of all of the excavated materials from the site has now been completed. The site has been confirmed to be a multicomponent habitation site that is consistent with the types of sites found at Wanuskewin. However, it is distinct because of the house pit feature, which is the only one that has been discovered on the Canadian Plains.

#### **12.3 Public Access to Archaeology**

Chapter 11 of this thesis focused on the final objective; how Saskatchewan archaeology has been made accessible to members of the public and the importance of that engagement and relationship. Avocational societies, such as the SAS and its associated chapters have played a

large part in retaining interest in archaeology as well as legitimizing it. Four very successful field school projects as well as workshops, site tours and archaeological survey opportunities are some of the ways that public engagement and involvement have been and continue to be accomplished. Monthly meetings and newsletters have always been excellent sources of outreach but now social media sites like Facebook and Twitter have been thrown in the mix to reach an ever expanding audience. Cultural facilities like Wanuskewin Heritage Park also have a very important role to play in telling the story of this province's rich cultural heritage and will help to keep archaeology relevant. As the City of Saskatoon continues to expand and encroaches on the park, pressure will be placed on the facility to grow and transform from a rural park to an urban park. This will necessitate significant changes to the infrastructure, but closer proximity to urban areas will certainly benefit both the park and the public.

#### **12.4 Future Directions**

Excavations at the Red Tail site were fairly extensive and a large amount of information was ascertained from the resulting data; therefore, further excavation seems unnecessary. Ramsay's work focusing on the McKean components of the site has been integrated into the broader understanding of that complex in Wanuskewin Heritage Park as well as the Northern Plains (Peck 2011). Also, as a multicomponent site, Red Tail aligns with Smith's conclusions that Wanuskewin was a terrestrial island and people continued to return and subsist in the area for thousands of years (Smith 2012). Future work on the other precontact sites in the park is certainly advisable. The archaeology still has much to offer and, even though it is the longest running archaeological project in the country, it will continue for a number of years.

There are a number of theoretical questions that could be considered in future research about cultural parks like Wanuskewin. For instance, do parks and interpretive centers limit or

confine First Nation's people's expression of their past and, if so, how? Within the boundaries of a public institution such as Wanuskewin, do First Nation's people feel restricted in what they can showcase based on concerns about what members of the public might or might not consider interesting? What kind of other considerations go into presentations of culture in such places? Discussions could also include an examination of the commercialization of culture and an exploration of whether or not that commercialization is harmful. Questions such as these seriously consider the important role that First Nation's communities have in the interpretation and presentation of the cultural remains excavated by archaeologists as well as how the consumption of culture takes place by members of the public.

It is also important to continue to discuss public engagement and education in archaeology. Hopefully, this will foster a dialogue among current and upcoming archaeologists about the relevance of inviting members of the public to participate in uncovering the past. We are situated within a discipline that can be shared and understood among groups of people in a way that can make those people agents of cultural heritage. Our relationship with the public can help keep archaeology dynamic and relevant in the present and secure its future.

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